This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

Stanford University Libraries
3 6105 118 183 008

LELAND STANFORD JR.
UNIVERSITY
LIBRARY.
THE GIFT OF
Dr. Branner

SMITHSONIAN INSTITUTION
U. S. BUREAU OF AMERICAN ETHNOLOGY
BULLETIN 64

THE MAYA INDIANS OF SOUTHERN YUCATAN AND NORTHERN BRITISH HONDURAS

BY

THOMAS W. F. GANN

WASHINGTON
GOVERNMENT PRINTING OFFICE
1918

970.1
U58eb
no. 64

STANFORD LIBRARY

262104

LETTER OF TRANSMITTAL

WASHINGTON, D. C., *November 4, 1916.*

SIR: I have the honor to transmit herewith the manuscript of a memoir entitled "The Maya Indians of Southern Yucatan and Northern British Honduras," by Thomas W. F. Gann, and to recommend its publication as a bulletin of the Bureau of American Ethnology.

Very respectfully,

F. W. HODGE,
Ethnologist-in-Charge.

Hon. CHARLES D. WALCOTT,
Secretary, Smithsonian Institution.

CONTENTS

PART 1. CUSTOMS, CEREMONIES, AND MODE OF LIFE

	Page
Introduction	13
Habitat	14
Personal characteristics	15
Dress	18
Industrial activities	20
Agriculture	20
Procuring food; cooking	21
Hunting	23
Fishing	25
Construction of houses and furniture	26
Pottery making	28
Boat building	28
Spinning and weaving	29
Minor industries	30
Tobacco curing	30
Basket and mat weaving	30
Social characteristics	32
Villages	32
Marriage and children	32
Drunkenness	34
Chiefs	35
Diseases and medicines	36
Games	39
Religion	40

PART 2. MOUND EXCAVATION IN THE EASTERN MAYA AREA

Introduction	49
Classification of the mounds	49
Ancient inhabitants of the region	51
Physical appearance	51
Dress	52
Weapons	52
Houses	53
Arts	53
Musical instruments	54
Food	55
Spinning and weaving	55
Games	56
Religion	56
Chronology	58
Description of mounds	59
Mound No. 1	59
Mound No. 2	63
Mound No. 3	65
Mound No. 4	67
Mound No. 5	70

Description of mounds—Continued. Page
Mound No. 5 A ... 72
Mound No. 6 ... 74
Mound No. 6 A ... 78
Mound No. 7 ... 79
Mound No. 8 ... 80
Mound No. 9 ... 83
Mound No. 10 ... 86
Mound No. 11 ... 90
Mound No. 12 ... 92
Mound No 13 ... 99
Mound No. 14 ... 99
Mound No. 15 ... 103
Mound No. 16 ... 105
Mound No. 17 ... 109
Mound No. 18 ... 111
Mound No. 19 ... 112
Mound No. 20 ... 112
Mound No. 21 ... 114
Mound No. 22 ... 115
Mound No. 23 ... 116
Mound No. 24 ... 118
Mound No. 25 ... 120
Mound No. 26 ... 123
Mound No. 27 ... 124
Mound No. 28 ... 124
Mound No. 29 ... 125
Mound No. 30 ... 125
Mound No. 31 ... 128
Mound No. 32 ... 129
Mound No. 33 ... 130
Mound No. 34 ... 132
Mound No. 35 ... 133
Mound No. 36 ... 134
Mound No. 37 ... 134
Mound No. 38 ... 134
Mound No. 39 ... 135
Mound No. 40 ... 136
Mound No. 41 ... 137
Two painted stucco faces from Uxmal ... 140
Authorities cited ... 143
Index ... 145

ILLUSTRATIONS

PLATES

		Page
1.	Group of Santa Cruz Indians	18
2.	Maya girls fishing	26
3.	Fish drying on one of the cays off the coast of Yucatan	26
4.	Maya Indian houses. *a*. Leaf-thatched house. *b*. Indian house on Rio Hondo	26
5.	Maya woman, 105 years old, spinning cotton	29
6.	Maya loom	29
7.	Sketch map of British Honduras, with adjacent parts of Yucatan and Guatemala, indicating the positions of mounds excavated	59
8.	Figurines of warriors from Mound No. 1	60
9.	Figurines from Mound No. 1	60
10.	*a*. Section through earthwork inclosing circular space, Santa Rita. *b*. Section of wall through Santa Rita	70
11.	Egg-shaped vase from Mound No. 5	70
12.	Metates and brazos from Mound No. 6	75
13.	*a*. Small pottery seal. *b*. Bowl in which skull was found. *c*. Skull	75
14.	Skull and bones from Mound No. 8	80
15.	Stone objects from Mound No. 10	88
16.	*a*. Model of jadeite bivalve shell. *b*. Light-green jadeite mask. *c*. Ax head, or celt. *d*. Terra-cotta cylinder	91
17.	Painted basin and cover from Mound No. 16	105
18.	Pottery from Mound No. 16	107
19.	*a*. Decoration on vase shown in figure 60. *b*. Decoration of vessel from Mound No. 17	110
20.	Incense burner from Mound No. 24	119
21.	*a*. Small vase decorated with human head. *b*. Human bones from Mound No. 29	125
22.	Painted clay figurine from Mound No. 33	131
23.	Pottery vase from Yalloch, Guatemala	142
24.	Pottery vase from Yalloch, Guatemala	142
25.	Pottery vase from Yalloch, Guatemala	142
26.	Pottery cylinder from Yalloch, Guatemala	142
27.	Pottery cylinder from Yalloch, Guatemala	142
28.	Pottery cylinder from Yalloch, Guatemala	142

TEXT FIGURES

1.	Map showing Yucatan, Campeche, British Honduras, and part of Guatemala.	14
2.	Gold earrings made and worn by the Santa Cruz Indians	19
3.	Cross of tancasche bark worn by children	19
4.	Powder horn and measure of bamboo used by the Indians	23
5.	Watertight box for caps, matches, or tinder, with corncob stopper	23
6.	Whistle for attracting deer by imitating their call	24

Page

7. Indian carrying load of bejuco, a liana used as rope in house building..... 26
8. Domestic altar..... 27
9. Stonelike substance used to prevent fingers from sticking while spinning.. 29
10. Calabash with liana base used in spinning..... 30
11. Chichanha Indian priest in front of altar at Cha chac ceremony..... 43
12. Priest tracing cross on cake and filling it in with sikil..... 44
13. Sacrificing a turkey at the Cha chac ceremony..... 45
14. Plan of Santa Rita mounds..... 59
15. Figurine from Mound No. 1..... 60
16. Figurines from Mound No. 1..... 61
17. Unpainted object from Mound No. 1..... 62
18. Clay alligator found in Mound No. 2..... 64
19. Objects from Mound No. 4..... 68
20. Pottery vessels from Mound No. 4..... 69
21. Objects found in Mound No. 5..... 71
22. Diagram of Mound No. 6..... 74
23. Diagram of trenches in Mound No. 6..... 76
24. Bowls, vases, and dishes found in Mound No. 6..... 77
25. *a*. Skull. *b*. Limestone foundation. *c*. Excavation. *d*. Grooved flag in situ. *e*. Projecting lip..... 78
26. Circular openings leading into natural cavity..... 80
27. Ground plan of ehultun..... 82
28. Ground plan of Mound No. 9..... 84
29. Wall construction of Mound No. 9..... 84
30. Details of Mound No. 9..... 85
31. Obsidian object and pottery vase from Mound No. 10..... 87
32. Obsidian arrowhead from Mound No. 10..... 89
33. Flint object from Mound No. 10..... 89
34. Obsidian object from Mound No. 10..... 90
35. Inscription on mask, plate 16, *b*..... 91
36. Inscription on ax head, plate 16, *c*..... 92
37. Flint spearheads..... 94
38. Flint objects..... 94
39. Devices scratched on stucco in aboriginal building..... 95
40. Eccentrically shaped implements found at summit of mound..... 96
41. Flint object found at base of stela..... 96
42. Flint object found at base of stela..... 96
43. Flints found in ruins at Naranjo..... 97
44. Objects from Benque Viejo..... 98
45. Obsidian objects found in a mound near Benque Viejo..... 99
46. Flint object from Seven Hills..... 100
47. Horseshoe-shaped flint object found near San Antonio..... 100
48. Figure from River Thames, near London..... 101
49. Flint objects from Tennessee..... 102
50. Flint objects from Italy..... 103
51. Small cup-shaped vase from Mound No. 15..... 104
52. Objects from Mound No. 15..... 104
53. Conventionalized representation of bird on vessel shown in plate 17..... 106
54. Decoration on vessel shown in plate 17..... 106
55. Perforated beads found in Mound No. 16..... 107
56. Jadeite beads found in Mound No. 16..... 107
57. *a*. Circular shell disks from Mound No. 16. *b*. Greenstone ear plugs from Mound No. 17..... 108
58. Obsidian disk inserted in tooth of skeleton found in Mound No. 17..... 109

Page
59. Bird carrying a fish outlined on shallow plaque found in Mound No. 17 ... 110
60. Cylindrical pottery vase found in Mound No. 17 ... 110
61. Larger pottery vase found in Mound No. 17 ... 111
62. Coiled plumed serpent painted on plaque found in Mound No. 17 ... 111
63. Pottery vase found in Mound No. 18 ... 112
64. Glyph outlined on outer surface of rim of vase shown in figure 63 ... 112
65. Torso, head, and headdress from Mound No. 20 ... 113
66. Fragment of pillar found in Mound No. 20 ... 113
67. Another view of incense burner shown in plate 20 ... 119
68. Incense burner decorated with crude clay figurine from Mound No. 25 ... 120
69. Crude clay figurine found in Mound No. 25 ... 121
70. Crude clay figurine found in Mound No. 25 ... 122
71. Small pottery vases found in Mound No. 26 ... 123
72. Red pottery vase found in Mound No. 27 ... 124
73. Pottery vessels found in Mound No. 31 ... 128
74. Chocolate pot found in Mound No. 31 ... 128
75. Pottery vessels found in Mound No. 32 ... 129
76. Head cut from limestone found in Mound No. 32 ... 130
77. Greenstone mask found in Mound No. 32 ... 130
78. Soapstone lamp found in Mound No. 33 ... 131
79. Rough pottery vessel found in Mound No. 33 ... 132
80. Objects found in Mound No. 34 ... 132
81. Figure in diving position on small vase ... 133
82. Design incised on femur of deer found in Mound No. 39 ... 135
83. Copper object found in Mound No. 39 ... 136
84. Ruins found in Mound No. 40 ... 137

KEY TO PRONUNCIATION OF MAYA WORDS

Vowels and consonants are pronounced as in Spanish, with the following exceptions:

k.....*k* explosive
K.....ordinary palatal *k*
X.....*sh* as in shut
TŠ.....*ch* explosive
C.....*ts*
Ai.....like *i* in confide
tt.....*t* explosive

THE MAYA INDIANS OF SOUTHERN YUCATAN AND NORTHERN BRITISH HONDURAS

By Thomas W. F. Gann

PART 1. CUSTOMS, CEREMONIES, AND MODE OF LIFE

INTRODUCTION

The southern and eastern parts of Yucatan, from Tuluum in the north to the Rio Hondo in the south, are occupied to-day by two tribes of Maya Indians, the Santa Cruz and Icaichè or Chichanhà. The number of Santa Cruz was estimated by Sapper in 1895 at about 8,000 to 10,000, but at the present day has probably been reduced to about 5,000. The Icaichè, the number of whom he estimated at 500, and is given by the *Guia de Yucatan* in 1900 as 803, now comprise not more than 200. This decrease is due to the policy of extermination carried out among the Santa Cruz for years by the Mexican Government, and the consequent emigration of many of the Indians to British Honduras, Guatemala, and northern Yucatan. The northern and western parts of British Honduras contain between 5,000 and 6,000 Indians; those in the north are partly indigenous and partly immigrants drawn from Yucatecan tribes who have left their homes after various political disturbances, especially after the occupancy of their towns of Bacalar and Santa Cruz by the Mexican Government. The Indians of the western part of the colony are also partly indigenous, but for the greater part Itzas, who have come in from Peten in Guatemala.

The objects shown in figures 16, 17, 18, 19, 21, 31, 35, 36, 47, 51, 52, 55, 56, 57, 59, 62, 63, 64, 65, 69, 70, 76, and 77, and in plates 8, 11, 12, 13, 14, 15, 16, 17, 18a, and 19 are in the Liverpool Museum; those shown in figures 15, 40, and 41 and in plate 9 are in the British Museum; those shown in figure 45 and in plates 23, 24, 25, 26, 27, and 28 are in the Bristol Museum; and those shown in figures 67 and 68 and in plates 20, 21, and 22 are in the Museum of the American Indian, Heye Foundation.

HABITAT

The northern part of British Honduras, between the Rio Hondo and the Rio Nuevo, consists of an almost level plain, having an area of nearly 1,000 square miles. The soil is a vegetal humus, varying from a few inches to several feet in depth, the average depth being about 2 feet; beneath this is a stratum of marly limestone, outcrops of which are found in many places. The southern part of Yucatan, which, unlike the northern part, is comparatively well watered, is also flat, though a few small hills are found along the northern bank of the Rio Hondo, commencing about 50 miles from its mouth (fig. 1). Most of the land along the rivers is swampy, producing only reeds, coarse grasses, and mangrove trees. Beyond the swamp country are found "cuhun ridges," consisting of river valleys or depressions in the surface which have become filled with alluvium brought down by the rivers from the interior, forming an exceedingly rich soil suitable for the cultivation of maize and nearly every tropical product. It is upon these "cuhun ridges" that most of the mounds and other relics of the ancient inhabitants are found and that nearly all the villages of the modern Indians are built. Large tracts of what is known as "pine ridge" are scattered throughout this area; these are level or slightly undulating plains covered with gravel and coarse sand—exceedingly poor soil, producing only wiry grass, yellow pines, and small pimento palms. On these "pine ridges" Indian mounds are hardly ever found, nor do the Indians of to-day build villages upon them except in rare instances and for special local reasons. With the exception of the extreme northern part, nearly the whole of this area is well watered by rivers and streams, while scattered throughout it are numerous lagoons and lakes, the largest of which is the Bacalar Lagoon.

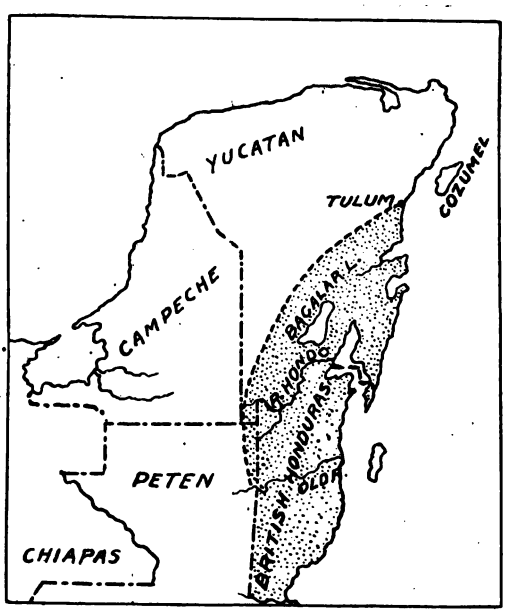


FIG. 1.—Map showing Yucatan, Campeche, British Honduras, and part of Guatemala. The area dealt with is shaded.

PERSONAL CHARACTERISTICS

The manners, customs, religious conceptions, and daily life of all these Indians are very similar, though among the Indians of British Honduras, who come more closely in contact with outside influences, old customs are dying out, and old ideas and methods are being superseded by new. The language of the tribes here considered, with slight local dialectical variations, is the same; all are of the same physical type; in fact, there can be little doubt that they are the direct descendants of those Maya who occupied the peninsula of Yucatan at the time of the conquest. Physically, though short they are robust and well proportioned. The men average 5 feet 2 inches to 5 feet 3 inches in height, the women about 2 inches less. The skin varies in color from almost white to dark bronze. The hair of both sexes is long, straight, coarse, black, and luxuriant on the head, where it extends very low over the forehead, but is almost entirely absent from other parts of the body. The women usually wear their hair hanging down the back in two plaits. Their faces are round and full, with rather high cheek bones; the skull is highly brachicephalic in type. The following indices were taken from a small number of Santa Cruz Indians, mostly males of middle age:

Maximum length of head	cm.	17.52
Maximum breadth of head	cm.	15.44
Cephalic index		*88.11*
Facial height	cm.	11.68
Maximum bi-zygomatic breadth	cm.	12.84
Facial index		*84.40*
Nasal height	cm.	5.13
Nasal breadth	cm.	3.55
Nasal index		*69.30*

The eyes are large and dark brown, the ears small and closely applied to the head, the nose rather broad, and the jaw prognathous. The mouth is fairly large and the teeth excellent, though toward middle age they become greatly worn down in many individuals from eating corn cake impregnated with grit from the stone metate, and from the same cause they are frequently much incrusted with tartar. The figure in both sexes is short and broad. The long bones and the extremities are small and delicate. Both men and women are, however, capable of considerable and prolonged exertion. The former can carry loads of 150 pounds for 20 miles in the macapal (*tab*), a netted bag

which is slung over the back and held up by a band passing round the forehead, while the latter can work for hours at a time grinding corn on the metate without apparent fatigue. Many of the younger women would be considered very good looking, measured by the most exacting standard, though they reach maturity at an early age, and deteriorate in appearance very rapidly after marriage, the face becoming wrinkled and the figure squat and shapeless. In walking the men bend the body forward from the hips, keep the eyes fixed upon the ground, and turn the toes in, habits acquired from carrying the macapal on all occasions. So accustomed have they become to this contrivance that many of them, when starting on a journey of even a couple of miles, rather than go unloaded, prefer to weight the macapal with a few stones as a counterpoise to the habitual forward inclination of their bodies above the hips. Children begin carrying small macapals at a very early age, and it is probably to this habit and not, as Landa suggests, to the custom among the women of carrying their children astride the hip that the prevalence of bowlegs (*kūlba ōk*) among the Indians is due. These people have a peculiar and indescribable odor, rather pleasant than otherwise; it is not affected by washing or exercise, is much stronger in some individuals than in others, and is perceptible in both sexes and at all ages. The women are, on the whole, both physically and mentally superior to the men, and when dressed in gala costume for a "baile" with spotlessly clean, beautifully embroidered garments, all the gold ornaments they possess or can borrow, and often a coronet of fire beetles, looking like small electric lamps in their hair, they present a very attractive picture. They are polite and hospitable, though rather shy with strangers; indeed in the remoter villages they often rush into the bush and hide themselves at the approach of anyone not known to them, especially if the men are away working in the milpas. They are very fond of gossip and readily appreciate a joke, especially one of a practical nature, though till one gets to know them fairly well they appear dull and phlegmatic. When quarreling among themselves both women and girls use the most disgusting and obscene language, improvising as they go along, with remarkable quick-wittedness, not binding themselves down to any conventional oaths or forms of invective, but pouring out a stream of vituperation and obscenity to meet each case, which strikes with unerring fidelity the weak points in the habits, morals, ancestry, and personal appearance of their opponents. The young girls are as bad as, if not worse than, the older women, for whom they seem to have no respect. They are extremely clean in their persons, and wash frequently, though with regard to their homes they are not nearly so particular, as hens, dogs, pigs, and children roll about together promiscuously on the floor, and fleas, lice, and jiggers abound only too frequently.

The description given by Landa (chap. XXXII, p. 192) of the Indian women at the time of the conquest applies equally well to their descendants of the present day:

> Emborachavanse tambien ellas con los combites, aunque por si, como comian por si, y no se emborachavan tanto como los hombres . . . Son avisadas y corteses y conversables, con que se entienden, y a maravilla bien partidas. Tienen poco secreto y no son tan limpias en sus personas ni en sus cosas con quanto se lavan como los ermiños.

The women are very industrious, rising usually at 3 or 4 o'clock in the morning to prepare the day's supply of tortillas or corn cake. During the day they prepare tobacco (*kutz*) and make cigarettes; gather cotton (*taman*), which they spin (*kuch*), weave (*sakal*), and embroider for garments; weave mats of palm leaf and baskets (*xush*) of a variety of liana (*ak*); make pottery (*ul*), and cotton and henequen cord, of which they construct hammocks (*ḳan*). In addition to these tasks they do the family cooking and washing, look after the children, and help their husbands to attend to the animals. Till late at night the women may be seen spinning, embroidering, and hammock-making by the light of a native candle or a small earthenware cuhoon-nut oil lamp, meanwhile laughing and chatting gayly over the latest village scandal, the older ones smoking cigarettes, while the men squat about on their low wooden stools outside the house gravely discussing the weather, the milpas, the hunting, or the iniquities of the Alcalde. Among the Indian women of British Honduras the old customs are rapidly dying out; spinning and weaving are no longer practiced, pottery making has been rendered unnecessary by the introduction of cheap iron cooking pots and earthenware, candles have given place to mineral oil lamps, and even the metate is being rapidly superseded by small American hand mills for grinding the corn. The men's time is divided between agriculture, hunting, fishing, and boat and house building, though at times they undertake tasks usually left to the women, as mat and basket making, and even spinning and weaving. The Indians of British Honduras who live near settlements do light work for the rancheros and woodcutters; they have the reputation of being improvident and lazy, and of leaving their work as soon as they have acquired sufficient money for their immediate needs, and this is to some extent true, as the Indian always wants to invest his cash in something which will give an immediate return in pleasure or amusement. The men are silent, though not sullen, very intelligent in all matters which concern their own daily life, but singularly incurious as to anything going on outside of this. They are civil, obliging, and good-tempered, and make excellent servants, when they can be got to work, but appear to be for the most part utterly lacking in

ambition or in any desire to accumulate wealth with which to acquire comforts and luxuries not enjoyed by their neighbors. It happens occasionally that an individual does perforce acquire wealth, as in the case of the head chief of the Icaichè Indians, who was paid a salary by the Mexican Government to keep his people quiet, and royalties on chicle cut on his lands by various contractors. He accumulated a considerable sum, all in gold coin, which he stored in a large demijohn and hid in the bush. At his death, as no one knew the place where the demijohn was buried, the money was permanently lost. They are remarkably skillful at finding their way in the bush by the shortest route from point to point, possessing a faculty in this respect which amounts almost to an instinct; they are skillful also at following the tracks of men and animals in the bush by means of very slight indications, as broken twigs and disturbed leaves, imperceptible to an ordinary individual. The men are very stoical in bearing pain. I have removed both arms at the shoulder joints, with no other surgical instrument than a long butcher's knife, and no anesthetic except several drinks of rum, for an Indian, crushed between the rollers of a native sugar mill, without his uttering a single complaint. The Indians are undoubtedly cruel, but not wantonly so, as the shocking acts of cruelty reported as being perpetrated by them from time to time are usually by way of reprisal for similar or worse acts on the part of the Mexicans. Before the rising of the Indians in 1848, they were throughout this part of Yucatan practically in a state of slavery, and were often treated by their Spanish masters with the utmost barbarity. As an instance of this it is recorded of a well-known merchant of Bacalar that he was in the habit of burying his Indian servants in the ground to the neck, with their heads shaved, exposed to the hot sun; their heads were then smeared with molasses and the victims were left to the ants; and this punishment was inflicted for no very serious offense. It is hardly to be wondered at that such treatment left in the Indians' hearts an undying hatred for their masters which, when in their turn they gained the ascendancy, found vent in acts of the most horrible cruelty—flogging, burning, mutilation, and even crucifixion.

Dress

The men wear hats of platted palm leaf, which they make themselves; those woven from coarse split palm leaf are known as *xani pok*, those of very fine leaf, like Panama hats, bear the name *bomi pok* (pl. 1). They wear cotton trousers (*eex*), or in some sections short cotton drawers (*xkulex*), with a short, loose, shirt-like jacket of cotton hanging outside the trousers. On the feet they use sandals of danta hide (*xanapkeuel*) held in place by a leather or henequen thong passing between the great and second toes and around the

GROUP OF SANTA CRUZ INDIANS

back of the heel to the front of the instep, where it is fastened. Formerly the cotton was grown, spun, and woven at home, but nowadays it is giving place to cheap imported English and American goods, while the sandals are being superseded by moccasins and even by imported shoes. The moccasins the Indians make themselves, tanning the hides (usually of deer or antelope) in lime and red mangrove bark and stitching the parts together with thin strips of leather. These moccasins, which are made on crude wooden lasts, are very comfortable and wear well.

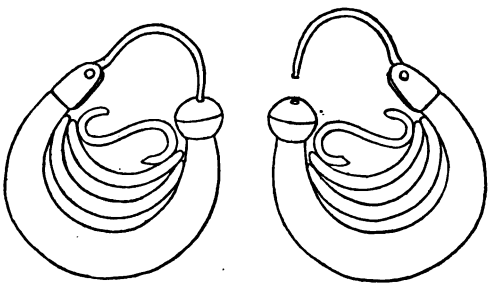


FIG. 2.—Gold earrings made and worn by the Santa Cruz Indians.

The women wear two garments of cotton; the huipil (*yuptè*), a loose short-sleeved blouse, cut square at the neck, and reaching nearly to the knees, and a short skirt reaching to between the knee and the ankle, known as a *pik*. The neck, the lower border, and the armholes of the blouse and the edge of the skirt were formerly beautifully embroidered in varicolored floral and geometrical devices; now, however, cotton manufactured in England or the United States and stamped in colors to imitate the original embroidery is rapidly coming into use. The women formerly went barefooted or wore loose slippers; now they frequently wear imported shoes, often with high heels, a feature which renders their walk and carriage awkward and stilted. They often go bareheaded, but sometimes wear a sort of shawl (*bostch*) around the head and shoulders. Many of them wear large round or oval plaques of gold (*tup*) in the ears, survivals, probably, of the enormous round ear disks worn by the ancient Maya (fig. 2). Some of the women wear long gold chains, with religious medallions attached, while the smaller children wear a variety of curious objects, as small coins, shells, beads, dried seeds, and berries, with figurines in wood, stone, pottery, and metal, strung round their necks. Many of these are worn as charms or amulets to protect the wearer against diseases, accidents, or evil spirits, or to bring good luck. A charm worn by nearly all children consists of a small cross of *tancasche* bark (fig. 3) which is regarded as a sovereign remedy for flatulence, a complaint from which, owing to the nature of their diet, nearly all suffer.

FIG. 3.—Cross of tancasche bark worn by children.

INDUSTRIAL ACTIVITIES

AGRICULTURE

Of all the arts practiced by the Indian, agriculture is by far the most important; indeed the greater part of his time and labor are devoted to the milpa (*kol*), or corn plantation, which affords him his principal means of livelihood, for if the corn crop fails he knows that actual starvation will menace his family until the next crop is gathered. The virgin bush, in which the milpa is made, is cut down about December or January, only the large and hardwood trees being left standing. This is the most arduous part of the work, and the neighbors often assist in it, being helped in turn when making their own milpas. The bush is allowed to dry until the end of May (the dry season lasting from January to May), when it is burned off. After the burnt area has been cooled by the first shower of rain it is planted in corn (*ixim*). This is a simple operation, two or three men going over the ground, each with a bag of corn and a sharp-pointed stick, making small holes at fairly regular intervals, into each of which they drop a few grains of corn, and then cover them with earth. About October the corn begins to ripen, whereupon each stalk is bent about a foot below the ear and allowed to hang down for several days in order that rain may not gain entrance and spoil the grain in the final stages of ripening. During this period the owner spends nearly all his time in the milpa, sleeping there in a little palm-leaf shack at night, since many animals, as deer and wild hogs, are very fond of corn, which is subject to raids also by neighboring Indians and by tame pigs from the village. When the corn is ripe, it is stored, still in the husk, upon a low platform, in a small house specially built for the purpose, often, in order to avoid transportation, situated within the milpa. It is shelled as required for use, the surplus from that eaten by the family and stock being exchanged at the nearest village for cash or for cotton cloth, rum, iron cooking pots, ammunition, and other luxuries. The shelling is done by rubbing the husked ear against a rough flat surface, made by binding a number of corncobs (*bacal*) together into a circle with liana. Many fruits and vegetables besides corn are grown in the milpa, including yams (*xaci macal*), camote (*īs*), pumpkins (*kuum*), squashes (*xka*), tomatoes (*paak*), plantains (*kaz*), colalu (*xterkoch*), aguacate (*on*), plums (*abal*), oranges (*pakaal*), siricote (*kopte*), sapodillas (*ya*), mamai (*chacal haz*), okra, garden egg, melon, breadfruit, sweet lime, pineapple, and a variety of others.

PROCURING FOOD; COOKING

Both men and women take for the first meal of the day a hot thick drink known as *posol*, made from ground corn and water, often flavored with honey; later they eat tortillas, beans, and chili pepper, accompanied with a cold drink made from corn. In the evening they make their principal repast, which includes game, pork, fish, or eggs, with beans and other vegetables, plenty of chili pepper, and either chocolate or some hot drink made from corn. They use a great variety of drinks concocted of ground maize and water, including *chocosacan*, a solution of the masa from which tortillas are made, in water, flavored with a little salt; *pinol*, a solution of ground toasted corn seasoned with pimento and other spices; *posol*, boiled corn ground to a paste and mixed with hot water; *sacha*, very much like posol, but the corn is not cooked soft, so that the beverage is gritty; and, lastly, *atol*, which is chocosacan boiled till the mixture becomes thick and glutinous.

Tortillas, or corn cake, sometimes eaten hot, sometimes cold, and at times toasted, are the Indian's chief mainstay in the way of food, as they appear at every meal, and at a pinch he can exist on them alone for a very long period. Tortillas are made in the following way: The grain is first soaked overnight in a lye of wood ashes, treatment which softens the grain and loosens the outer husk. The softened grain is next ground into a fine paste on an oblong stone, slightly concave, known as a metate (*ka*), by means of a stone rolling pin thicker in the middle than at the ends, designated as a brazo (*u kabka*). This procedure takes considerable time, as the grain has to be ground a number of times in order to get the paste to the required degree of fineness. When the paste or masa is ready it is flattened by hand into small round cakes (tortillas), which are baked on an iron or earthen plaque (*xamach*) over a glowing wood fire.

The hunters are experts at barbecuing (*macan*) the carcasses of various birds and animals, chiefly deer, peccary, wild turkey, and curassow, as they often get a large supply of game when several days' journey from the village, which, unless preserved in some way, would quickly spoil. The carcasses are cut into joints; the birds plucked, cleaned, and split open; and the meat thus prepared is hung in a small palm-leaf shack rendered as nearly airtight as possible, upon the floor of which is kindled a fire of damp cedar chips. These give off some heat and great quantities of aromatic smoke, so that in about 24 hours the meat is sufficiently cured to last for several weeks. Meat prepared in this way is considered a great delicacy. If it is wished to preserve the meat for longer periods the process is prolonged and salt may be rubbed in. Strips of meat

and carcasses of birds may sometimes be seen hanging from the rafters over the fire in the kitchen so desiccated, hard, and blackened that it would appear impossible to eat them; but after months of drying this meat, when soaked in warm water for 24 hours, is not unpalatable. The Indians wash their hands before and after eating, a very necessary practice, as they eat exclusively with their fingers, using the tortillas to scoop up gravy, beans, and other mushy foodstuffs. They eat at small round tables about 16 inches high, sitting, or rather squatting, around them on little blocks of wood 4 to 5 inches high. They are very fond of salt, which among the coast Indians is obtained by evaporating sea water, among the inland villages by trade from Yucatan and Guatemala. Since this supply has been almost cut off, owing to the troubles with Mexico, the Indians frequently use for salt the ashes obtained by burning botan tops. Men and women do not eat together, as the women are preparing relays of hot tortillas for the men while the meal lasts. Their food and mode of eating is well described by Landa (chap. XXI, p. 120):

Que por la mañana toman la bebida caliente con pimienta, como esta dicho y entre dia las otras frias, y a la noche los guisados. Y que si no ay carne hazen sus salsas de la pimienta y legumbres. Que no acostumbravan comer los hombres con las mugeres, y que ellos comian por si en el suelo, o quando mucho sobre una serilla por mesa: y que comen bien quando lo tienen, y quando no, sufren muy bien la hambre y passan con muy poco. Y que se lavan las manos y la boca despues de comer.

Indeed, the foregoing description would apply almost as well to Indians of the more remote villages of the present day as to those of the time immediately after the conquest. In localities where they have come in contact with more civilized communities their menu has been considerably enlarged by the introduction of imported foodstuffs, while their methods of eating have been changed by the introduction of knives, forks, and spoons. The native methods of cooking are very primitive. Three large flat stones so placed as to form an equilateral triangle, known as *koben*, form the only fireplace; in this is kindled the fire of sticks or split logs, over which is placed the earthenware or iron cooking pots or plaque for baking tortillas, resting on the stones. Fire (*kaak*) is usually obtained through the use of matches among the Indians of British Honduras. Hunters and others who spend a great part of their time in the bush employ flint and steel. Among the Indians in the remote villages fire is still made by swiftly rotating a sharp-pointed shaft of some hardwood (usually dogwood) in a hole made in a small slab of very light dry wood (commonly gumbo limbo). There is no chimney to the kitchen, the smoke finding its way out as best it can through the doors and crevices in the walls; consequently

the whole of the interior, with its permanent furnishings, is colored a fine rich brown.

HUNTING

It must be admitted that the Indian is no sportsman in the pursuit of game, the claims of the pot being always paramount. He rarely shoots at a flying bird unless to fire into the midst of a flock of parrots or wild ducks, and when after the larger game he waits till he can deliver the contents of his gun point-blank into some vital

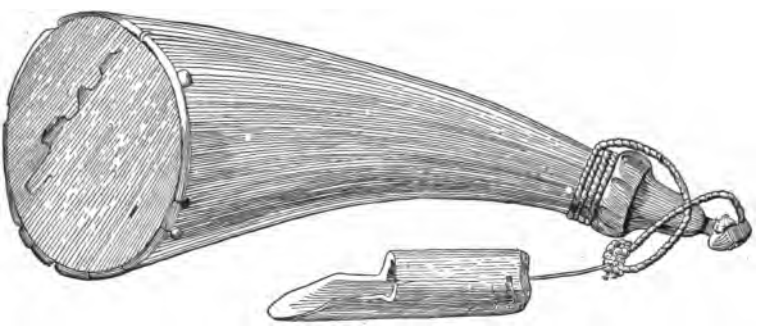


FIG. 4.—Powder horn and measure of bamboo used by the Indians.

part. This practice may be due partly to the limitations of his weapon, which till recent years consisted of a muzzle-loading section of gas pipe, nearly as dangerous when discharged to the hunter as to the game, and partly to the fact that the bush is usually so dense that an animal, if not shot at point-blank range, can not be gotten at all. It is probably not more than four generations since the use of the bow and arrow died out among the Indians in the western part of British Honduras, as old men among them

FIG. 5.—Watertight box for caps, matches, or tinder, with corncob stopper.

have told me that they could remember seeing a few still in use when they were very young. The flint arrowheads, they said, were obtained down the Mopan River. This seems quite possible, as at Baker's, not far from Belize, there is an outcrop of flint, where, judging by the great heaps of fresh-looking chips and rejects still in existence, a considerable "factory" must have existed at a comparatively recent date. Some of these old men could still make fairly serviceable bows and arrows, the heads of the latter being cut from hardwood.

The principal game animals of this region are the deer (*ke*), two species of wild hog, the warri and peccary (*kekem*), gibnut (*halib*), armadillo (*vetsh*), wild turkey (*kutz*), parrot (*tut*), pigeons of various kinds (*mucui*), curassow (*kambul*), quam (*cosh*), quail (*num*), and partridge (*mankolom*). Besides these, birds in great variety, reptiles, and mammals are killed and eaten from time to time, including plovers, garzas, toucans, water hens, wild ducks, and chichalacas. The iguana (*tolok*) is eaten by the Indians in the west of British Honduras, as are also the woula (*ochkan*), a large constrictor snake, and the rattlesnake, known as the *cazon i kash*, or "little shark of the woods." Turtles (*sacak*) are often captured along the east coast of Yucatan and the adjacent islands, and their eggs in the breeding season form a great delicacy for the Santa Cruz Indians living in the neighborhood of Tuluum. Hicatee (*ak*) and bucatora are caught in great numbers in all the rivers and lagoons. The tiger (*balam*), puma (*coh*), picote (*chic*), monkey (*maash*), tapir (*tzimin*), squirrel (*kuuk*), cane rat (*tšo*), and other animals are hunted from time to time, either for their skins or flesh. Deer are secured in considerable numbers in the rutting season by imitating their call with a wooden whistle (fig. 6); they are also found in the milpas, just after the burning,

FIG. 6.—Whistle for attracting deer by imitating their call.

where they come to lick the slightly saline ashes. At this time the owners build platforms on poles 10 to 12 feet high, on top of which they spend the whole night in an extremely cramped and uncomfortable position, waiting for deer or other game to approach near enough for an easy shot. A favorite method of hunting the larger game animals is to go out at night with a split-pine torch attached to the hat; this attracts animals of all kinds, whose eyes may be seen gleaming in the dark, affording an easy mark, though not infrequently a neighbor's errant pig pays the penalty of curiosity.

Traps of two kinds are in common use. One employed to snare larger game is constructed in the following way: A path frequented by game in going to and from a watering place is found; along this is dug a shallow trench opposite a good springy young sapling; two stakes are driven in, one on each side of the trench, the one farthest from the tree being crooked at the top. A piece of henequen cord, provided with a noose at one end, and with a stick long enough to extend from one stake to the other, firmly tied by its middle above the noose, is attached to the top of the sapling by its other end. The sapling is then bent down and held in place by the stick above the noose, which is fixed lightly between the crook in one stake and

the stake opposite to it, the loop hanging suspended between the two. Lastly, a number of sticks and leaves are scattered lightly over the trench and beside the stakes and loop. Animals coming along the run are very apt to put their necks in the loop, and by pulling on this, to release the cross stick, whereupon they are immediately suspended in the air by the jerking back of the bent sapling. Animals of all sizes, from rabbits to tigers, are caught in traps of this kind, the strength and adaptability of which vary with the size of the bent tree and the adjustment of the noose. Another trap, used only for small animals, consists of an oblong cage made of split bamboo or cabbage bark. Over the opening, which is in the top, rests an accurately balanced strip of board, baited at one end with corn. When the animal endeavors to reach the bait it is precipitated into the trap, and the board swings back into place, covering the exit. Before they obtain guns the boys use slings, with which they can throw pebbles with remarkable force and accuracy, bringing down birds, squirrels, and other small game. They keep many tame animals, some for food, others as pets, including pigs, dogs, cats, peccaries, gibnuts, rabbits, quashes, nicos de noche, and squirrels; also birds, as parrots, doves, quam, curassow, chichalaca, sinsonte, pavo real, and many others.

FISHING

Many fish are found in the coastal waters, in the rivers, and in the lagoons of the interior, including cazones, tarpon, skipjacks, snappers, eels, baracoudas, stone bass, cobarli, jewfish, tubers, bay snooks, river snooks, and a variety of others. They are caught with hook and line, in cast and seine nets, in traps, and by spearing or harpooning. Fish traps are cylindrical in shape, with a funnel-shaped opening at each end, the apex of the funnel pointing toward the center of the trap, so that entrance is easy but exit very difficult. The traps, made of split bamboo, are placed upon the bottoms of rivers or lagoons, baited with "masa," which attracts multitudes of the tiny fish there abounding; these in their turn attract larger fish, which enter the trap in pursuit of the small fry and are captured. Harpooning at night by the light of a split-pine torch is about the nearest approach to real sport which the Indian enjoys; this is usually done near the bar of a river, on a calm dark night, by three men in a canoe, one paddling, one holding the torch, and the third wielding the harpoon. This implement consists of a slender cane 10 to 12 feet in length provided with a sharp barbed spindle-shaped steel head, fitting into the hollow at one end, so that on striking the fish the head parts from the shaft to which it is attached by a cord held in the hand of the harpooner. The fish are attracted by the light of the torch, and the harpooner strikes at the swirl which they make

alongside the dory. Harpooning is rather an exciting form of sport, as it is impossible to tell what sort of fish has been struck until it is landed. Hicatee and bucatora are harpooned with an unbarbed triangular point, this giving the best hold on their tough shells; they are captured also by spreading small nets in the vicinity of the stumps and holes along the river banks, which they frequent.

FIG. 7.—Indian carrying load of bejuco, a liana used as rope in houes building.

CONSTRUCTION OF HOUSES AND FURNITURE

The Indians construct their houses in the following manner: First a number of straight trees about 8 inches in diameter at the base and crotched at the top are selected in the bush for posts. These are usually Santa Maria, chichem, sapodilla, or some hardwood. They are cut down, and after having been peeled are dragged to the site of the new house, where they are firmly planted, one at each of the four corners and others, the number depending on the size of the house, at short intervals between in the lines of the walls. In the crotches other slightly smaller poles 5 to 6 inches in diameter, also peeled, are laid; to these are attached still smaller poles, which run up to the ridgepole (*honache*), forming rafters (*uinciche*). All this framework is firmly bound together by means of ropes of liana (fig. 7). Rows of long thin pliable sticks are next bound round the rafters, and to these are attached layer upon layer of "huana" (*shaan*) leaves till a thatch, sometimes 18 inches thick and quite impervious to rain, is formed (pl. 4).

The walls between the posts are filled in with "tasistas," a small palm trunk, or in some cases with strips of split cabbage palm. The outer sides of the walls may be daubed with a mixture of mud and hair, or of chopped fiber (*pakloom*), and whitewashed, or they may be thatched with palm leaves. The floor is made of marl dust pounded down to a flat hard surface.

Doors and windows may be made of wickerwork of liana, of split cabbage palm, or of a frame of sticks thatched with palm leaves. When a man undertakes the building of a new house his neighbors

MAYA GIRLS FISHING

FISH DRYING ON ONE OF THE CAYS OFF THE COAST OF YUCATAN

a. LEAF-THATCHED HOUSE

b. INDIAN HOUSE ON RIO HONDO

MAYO INDIAN HOUSES

usually help him, and the residence is ready for occupancy in a few days, as all the materials are growing ready to hand in the neighboring forest, and require only cutting down and assembling. The facility with which their dwellings are constructed, and the difficulty in getting more than one or two crops in succession from each plantation, with their primitive agricultural methods, probably account for the frequent changes in site which one notices in Indian villages. As the lands in one neighborhood become impoverished, the population has a tendency gradually to desert the old village, and start a new one in a more favorable locality.

The kitchen, which is a replica of the house on a small scale, is usually placed a few yards behind it.

The furniture is of the simplest, consisting of a small round cedar table, with a little bowl-shaped projection which contains a lump of masa when tortillas are being made and chili peppers or salt at meal times. The seats are mere blocks of wood, 3 or 4 inches high (*caanche*), with perhaps one or two more pretentious low hollow-backed wooden chairs covered with deer skin or "tiger" skin. A number of calabashes of all shapes and sizes, with a few earthen water jars, iron cooking pots, and plaques for baking tortillas, are found in all houses.

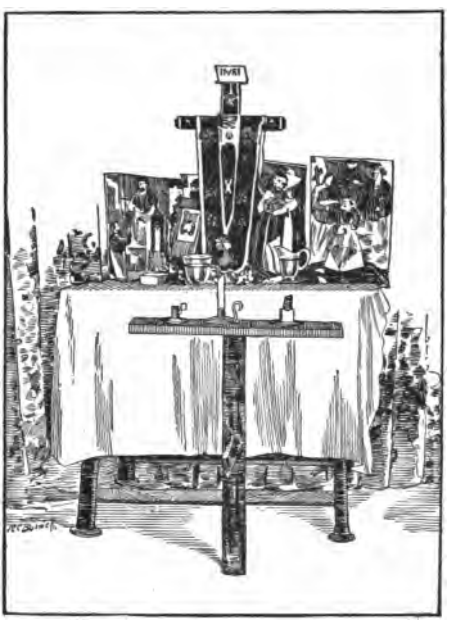


FIG. 8.—Domestic altar.

Hammocks (*káan*) of cotton or henequen fiber are always conspicuous articles of furniture, as they are slung all around the room, making it very difficult to move about in it when they are let down. In many houses contact with the hammocks is not desirable, as lice have a habit of leaving the body of the hammock during the day and secreting themselves in the knots between the body and the arms, whence they may transfer themselves to the garments of the unwary. If the hammock is large the father and mother often sleep in one, their heads at opposite ends, while the smaller children, frequently to the number of three or four, occupy another. There can be no such thing as privacy, as the whole family commonly sleep, live, and eat in a single room, which at most is divided into two apartments by a flimsy cotton curtain. A prominent

object in most Indian houses is an altar (*canche*), or high square table, upon which stands a wooden cross (fig. 8). The altar is covered with a cotton cloth, embroidered in flowers and religious symbols; the cross is draped with ribbon or strips of colored fabric, and sometimes with crude models, in silver or gold, of legs, arms, and hands, representing thank offerings to some favorite Santo for the healing of corresponding parts of the body. Little images in wax, and, if the Indian can obtain them, religious oleographs and medallions, with colored-glass vases, are commonly found upon the altar, which is frequently dressed with fresh flowers.

The Indian's only tool is his machete, a heavy cutlass-like knife, about 16 inches long; with this he cuts and cleans his milpa, makes his house and most of his furniture, digs postholes, and fights and defends himself.

His indispensable belongings consist of a hammock, a few calabashes and pots, a machete, and a cotton suit, all of which he can carry slung over his back in a macapal; with his wife and dogs trotting behind him, he can leave his old home and seek pastures new with a light heart and untroubled mind, knowing that the bush will provide for all his needs.

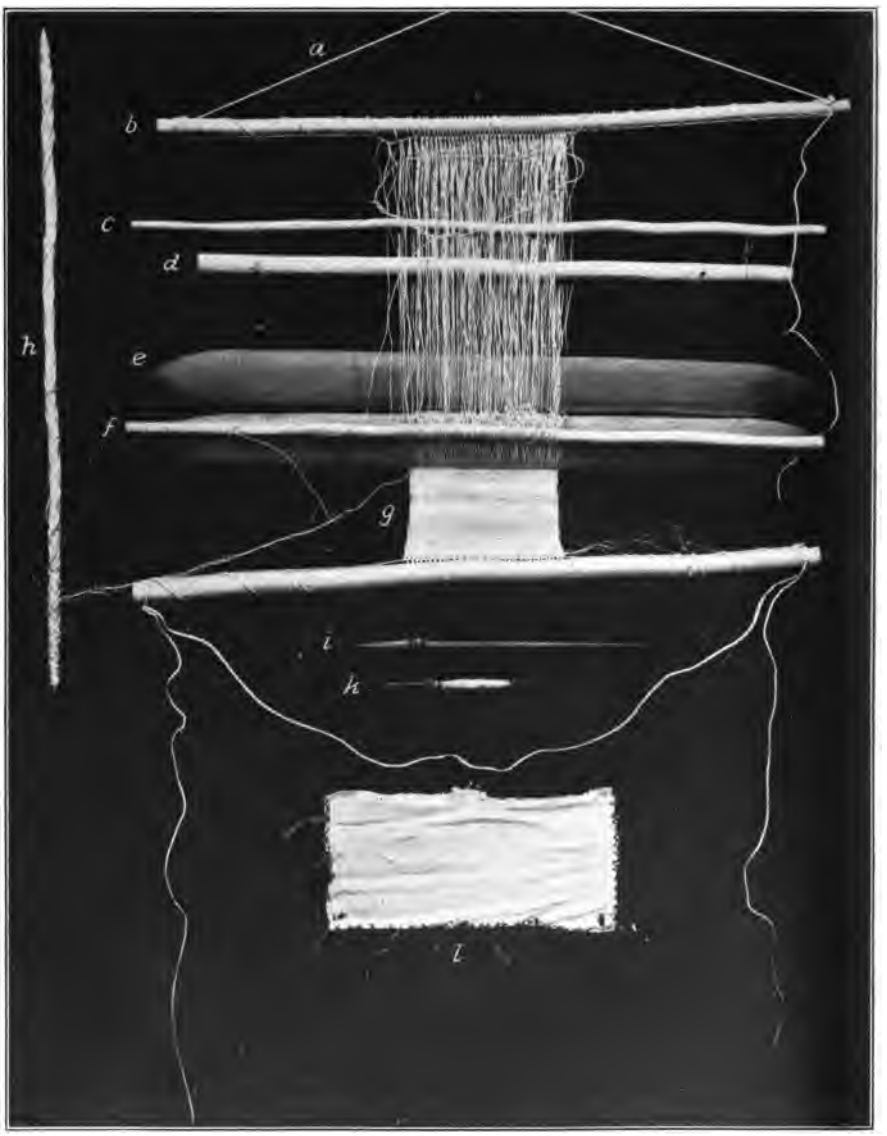
POTTERY MAKING

Pottery making is rapidly dying out through the greater part of this area, owing to the importation of more convenient and durable vessels. It is undertaken almost exclusively by the older women, who employ a fine light yellow clay mixed with sand or powdered quartz. They make vessels in considerable variety, both as to size and shape, which are used for the storage of water and dry material, as corn, beans, and achiote, and as cooking pots. They do not use a potter's wheel, but mold the smaller utensils by hand and build up the larger by the addition of fragment upon fragment of clay. The outside is smoothed over with a little wooden spade-like implement. No polish, glaze, or paint is applied to the pottery, either inside or out; the highest effort at decoration resulting in merely a few incised lines just below the neck, or a rough scalloping around the rim. The pottery is burned in a clear, open wood fire; when completed the ware is known as *ul*.

BOAT BUILDING

The Indians living in the neighborhood of lakes and rivers possess dories or canoes which vary in size from tiny craft 5 to 6 feet long by 16 to 18 inches beam, capable of holding only a single individual, to large craft 25 feet or more in length, large enough to hold a dozen people. All their canoes are constructed by the simple process of hollowing out large logs, the more durable ones being made from cedar, the lighter ones from wild cotton (*yaxche*). The boats are

MAYA WOMAN, 105 YEARS OLD, SPINNING COTTON



MAYA LOOM

a. Yamal. *b*. Xunche. *c*. Sikinche. *d*. Toboche. *e*. Cheil. *f*. Mamacche. *g*. Yoch. *h*. Botoch. *i*. New spindle. *k*. Old spindle. *l*. Cotton cloth.

pointed, bow and stern, and when steel tools are available to their makers the lines are often very graceful. Many of the boats, however, follow to some extent the contours of the logs from which they were made, being exceedingly clumsy and difficult to manage. On the rivers and lakes the only method of propulsion is by means of a broad-bladed cedar paddle about 5 feet long, or, where the water is shallow and the bottom hard, a long pole. Both men and women have acquired considerable dexterity in paddling and can keep it up at a 4-mile-an-hour gait from early morning till late at night, with very short intervals for refreshment. They use their canoes for trading corn, vegetables, lime, and live stock among villages along the river banks, for line fishing, spearing, and netting, and for getting from place to place. On the large lagoons and along the seacoast they sometimes use the pole to support a lug sail.

SPINNING AND WEAVING

Spinning (*kuch*) is done by means of a spindle (*hechech*) of hardwood, 12 to 14 inches long, weighted about 3 inches from the bottom with a hardwood or pottery ring (pl. 5). The upper end is revolved by the finger and thumb of the right hand, which are constantly rubbed on a piece of stonelike substance, made from deerskin burned and ground to a powder, to prevent them from sticking (fig. 9). The cotton (*taman*) may be held in the left hand, or on the shoulder; the lower end of the spindle rests in a small calabash (*luch*), which is cemented into a support of woven liana (*met*), the *luch* and *met* together being known as *toh* (fig. 10).

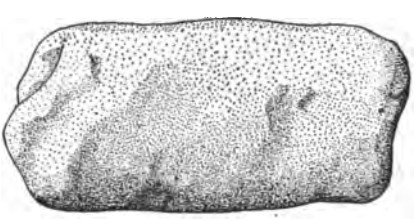


FIG. 9.—Stonelike substance used to prevent fingers from sticking while spinning.

Weaving is done on a simple loom consisting of a cloth beam and yarn beam (*xunche*) of light strong wood, connected by the warp (*cheil*) (pl. 6). The cloth beam is attached round the back of the weaver by a thick henequen cord (*yamal*), enabling him to tighten the warp at will by simply leaning backward. The yarn beam is usually attached to a doorpost. The shuttle (*botosh*) consists of a light stick, pointed at both ends, on which the weft is wound obliquely. All the alternate warp strands may be raised together by means of a heddle (*mamacche*) consisting of a number of loops attached to a rod, each loop passing round a warp strand, so that when the rod is raised the warp threads are raised with it. The lease rods (*halahteh*) consist of splints of hard heavy wood, usually sapodilla, 2 to 3 inches broad, one-third of an inch thick in the center, with sharp edges and pointed ends. A loose rod (*toboche*) about the size of the yarn beam

is used to roll up the completed material (*yoch*). The loom for cotton cloth is usually 2½ to 3 feet broad, but much smaller looms are frequently used for narrower strips of material

MINOR INDUSTRIES

Tobacco Curing

The tobacco leaves are hung in bunches, often under the roof of the corn house, in the milpa, in a free current of air, till they are thoroughly dry; they are then powdered in a shallow basin, or the bottom cut from a large calabash, and mixed with the leaves of the *chiohle*, a species of vanilla, which gives a distinctive flavor and fragrance to the tobacco; finally the mixture is rolled into cigarettes (*chiople*) in a covering of corn husk (*coloch*).

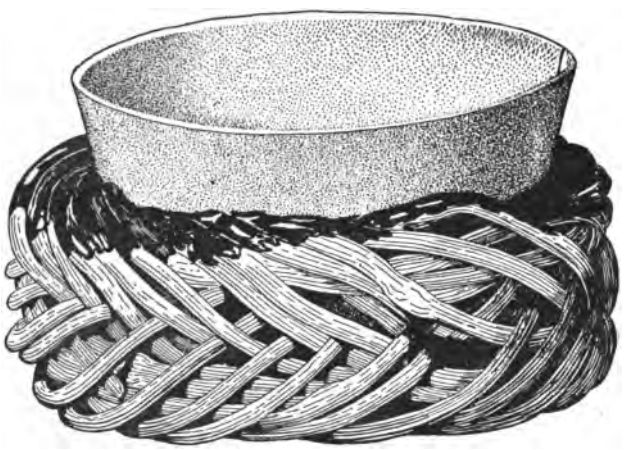


Fig. 10.—Calabash with liana base used in spinning.

Basket and Mat Weaving

Baskets are woven from a special thin tough liana and from split cane; those of liana (*ak*), which are large and coarse, are commonly used for carrying corn from the milpa, slung over the shoulders like a macapal. The split-cane baskets, which are smaller and more neatly woven, are used in the house for all sorts of domestic purposes.

Henequen fiber is used by the Indians for a great variety of purposes. The fiber is obtained from the leaf, which is cleaned upon a smooth board (*pokche*) about 4 feet long by 6 inches broad, in the following way: The top of the board is held against the lower part of the operator's chest while the lower end rests on the floor. The leaf is placed on the board and the pulp scraped from the fiber with a bar of hardwood, triangular in section. At the upper end of the board is a deep notch in its side, in which the cleaned part of the leaf is clamped, thus fixing the part which is being scraped. The

cleaning has to be done very early in the morning, as when the sun gets hot the juice from the pulp produces an unpleasant itching rash upon the skin. The fiber when cleaned and dried is made into rope and cord; from the cord hammocks, sacks, a coarse kind of cloth, and many other articles are manufactured. Candles are made by dipping a wick of twisted cotton into melted black beeswax (*box keb*), obtained from wild bees. Sometimes a number of the logs in which the wild bees hive are brought in to the village and placed one above the other, on trestles, to form a sort of apiary, in order that honey and wax may be always obtainable.

Oil for cooking and for burning in small earthenware lamps with twisted cotton wicks is obtained by breaking up the kernel of the cuhoon nut and boiling it in water. A clear rather thin oil floats to the surface, which may easily be skimmed off. Near the sea coconut oil is prepared in the same way.

SOCIAL CHARACTERISTICS.

Villages

The villages vary in size from two or three houses to two hundred or more, with inhabitants numbering from 10 or 12 to more than 1,000. In the smaller villages the houses are very irregularly disposed; in the larger they are arranged more or less regularly so as to form streets around a large central space, or plaza, where the dance house and church are usually situated. Each house is surrounded by its own patio, or yard, generally inclosed in a fence of "tasistas," in which the bush is allowed to grow to a considerable height in order to provide a convenient latrine for the women and children. Dogs, pigs, and vultures serve as scavengers. Many of the Indians, especially the Santa Cruz, are at great pains to conceal the whereabouts of their villages. Along the main roads only a few scattered groups of huts will be seen, while the larger villages are approached by tracks so inconspicuous that they may easily be missed. The villages themselves are surrounded by a maze of narrow tortuous paths, in which a stranger may wander about for some time before finding his way in. The Santa Cruz are said sometimes to cut the tongues from their cocks in order to prevent them crowing and so betraying the situation of the village.

The Indians are very jealous of outside interference in their affairs and do not permit foreigners to reside in their villages. An exception was made in the case of a number of Chinese coolies imported into British Honduras many years ago, most of whom ran away to the Santa Cruz country, where they were well received and married Indian wives. Among their offspring, it is interesting to note, are found a very unusual proportion of defectives. On one occasion the Mexican Government commenced to cut a road through from Peto to Santa Cruz, the Indian capital. Five of the Santa Cruz Indians went to see the work going on and were well received and given useful presents. On returning to their own country, however, they were executed by the head chief as traitors for encouraging the entry of outsiders into their territory.

Marriage and Children

The Indian girls married formerly at about 14 or 15, the boys at about 17 or 18 years. After the conquest of Bacalar, however, and the expulsion of Yucatecans from Indian territory a law was passed making marriage compulsory for all girls of 12 years of age

and upward. This was probably done with the idea of increasing the population, which had been considerably depleted by the long-continued war. Formerly, the first question of a girl's father to her suitor was "*Hai tzak a kul hai tzak taman?*" (How many macates of corn and cotton have you?); but at the present day there are not enough men to "go round." The Indians of British Honduras are usually married by the Catholic priest, though the actual ceremony is often performed months or even years after the young couple have set up housekeeping together, since owing to the remoteness of many of the Indian settlements the priest can visit them only at long intervals. Among the Santa Cruz marriages are not considered legal unless performed by an official known as the *yumxcrib* (probably derived from the Maya *Yum*, "lord," and Spanish *escribano*), who holds a position somewhat analogous to that of colonial secretary in a British colony.

The babies and smaller children in general are pretty, merry little things. The mothers almost invariably nurse them well into the second year, as the mammary glands are remarkably well developed and the secretion is abundant and long continued. Children are much desired by both parents and are well treated and loved, though not spoiled. If the father and mother separate, the very young children remain with the mother; of the older children, the boys go with the father, the girls with the mother. If small children are left destitute by the death of both parents, the nearest relative takes them, and in the absence of relatives they are distributed by the subchief among families of his choosing in their own village. When a man dies his widow takes the home, furniture, domestic animals, corn, and plantations; other possessions, if such exist, are divided equally between the widow and the older children, each taking such articles as will be most useful to him or her. When a woman dies her jewelry, ornaments, and clothes are divided between her daughters. The marriage tie is a somewhat loose one, and the more the Indians come in contact with civilization the looser it seems to become. In British Honduras, where the Indians are closely associated with Spaniards, Mestizos, Negroes, and other races, the women change their partners with the utmost facility. The Negroes are called *kisinbosh*, "black devils," by the Indians, a term which, however it originated, is now employed without any particularly opprobrious significance, as many of the Maya women show no repugnance to a Negro husband. A good deal of the immorality is brought about by the cheapness of rum and the facility with which it is obtainable by the Indians. The husband takes to drink, neglects his wife and family, and probably gets entangled with some other woman; the wife, in order to obtain food, clothing,

and a shelter for herself and children, is driven to an alliance with some other man who is a better provider. The consequence is that in British Honduras all degrees of racial mixture are to be found between Indian women and European, East Indian, Chinese, and Negro men, who, again intermarrying, produce a bewildering racial kaleidoscope.

The Indians are a short-lived race, a fact due partly to their indigestible and badly cooked food and partly to the prevalence among them of malarial fever (*chokuil*), with accompanying anemia (*xcan mucui*) and splenic enlargement (*canchikin*), but chiefly to overindulgence in alcohol whenever an opportunity offers. Notable exceptions to this rule are, however, not uncommon, and once an individual passes the four-score mark he or she is quite likely to live to well over 100 years; dried up, wrinkled, and feeble, but clinging to life with an almost incredible tenacity.

Drunkenness

Landa frequently mentions the fact that in his day drunkenness (*kaltal*) was the curse of the Indians and the cause of many crimes among them, including murder, rape, and arson.[1] At the present time these remarks apply equally well; indeed, drunkenness is probably more prevalent than formerly, as the rum is made locally and is far more intoxicating than the *balchè*, which Landa describes as a drink made from fermented honey, water, and roots. Moreover, the people drink rum at all times and seasons, whereas both the preparation and consumption of *balchè* were to some extent ceremonial, as was the resulting intoxication. Drunkenness is not considered in any way a disgrace, but is looked on rather as an amiable weakness. The women, especially the older ones, drink a good deal but they usually do so in the privacy of their own houses. I have seen, however, a little girl of 14 or 15 purchase a pint of rum in a village liquor store, and go out on the plaza, where she drank it in a few gulps; then, lying down in the fierce heat of the afternoon sun, she lapsed into alcoholic coma. Alcohol effects an extraordinarily rapid change for the worse in the Indian's temperament; from a quiet, polite, rather deferential individual, he is converted almost in a moment into a maudlin idiot, staggering about singing foolish snatches of native songs, and endeavoring to embrace everyone he comes in contact with. When thwarted while in this condition his temper is likely to flare up at the slightest provocation, whereupon the thin veneer of civilization and restraint is sloughed in a moment, and he becomes savage, impudent, overbearing, and contemptuous

[1] Que los indios eran muy dissolutos en bever y emboracharse, de que les seguian muchos males, como matarse unos a otros, violar las camas . . . y pegar fuego a sus casas.—Landa, *Relación de las Cosas de Yucatan*, chap. xxii, p. 122.

toward the stranger, and ready to draw his machete and fight to kill, with friend or foe alike.

CHIEFS

On the death of the head chief (*noh calan* or *nohoch yumtat*) among the Santa Cruz and Icaichè the oldest of the subchiefs (*chan yumtopilob*) is supposed to succeed him; as a matter of fact there are always rival claimants for the chieftainship, and the subchief with the strongest personality or greatest popularity among the soldiers usually succeeds in grasping the office. There are nearly always rival factions endeavoring to oust the chief in power, and the latter rarely dies a natural death. The village subchiefs are elected by the people. The power of the head chief is practically absolute over the whole tribe. Some years ago, when Roman Pec was head chief, one of the subchiefs came to Corozal, the nearest town in British Honduras, to purchase powder, shot, and other supplies. He remained some time, as he had many friends in the place, and obtained, among other things, a bottle of laudanum to relieve toothache. On returning to his village he was met by three soldiers, who informed him that he was to go with them at once to the head chief, as the latter was angry with him on account of his long absence from the country. Aware that this was equivalent to a sentence of death, he asked permission to retire to his house for a few minutes, to get ready for the journey, and taking advantage of the opportunity, he swallowed the whole contents of the bottle of laudanum. This began to take effect very shortly, and long before reaching the capital he was dead.

The method of executing those sentenced to death is curious. The accused does not undergo a formal trial, but the evidence against him is placed before the head chief; if he is convicted, he has an opportunity of defending himself and of producing witnesses in his behalf. Three or four soldiers are chosen by the chief to carry out the sentence; this they do by chopping the victim to death with their machetes when they catch him asleep or off his guard. Several men always perform this act, all chopping the victim at the same time, so that no single individual may be directly responsible for his death. Imprisonment as a punishment for crime is unknown, fine, flogging, and death being the only three methods employed for dealing with criminals. Fines and flogging may be administered by the subchiefs, but sentence of death can be passed only by the head chief. The severity of the flogging is regulated by the nature of the offense, and after it is over the recipient is compelled publicly to express sorrow for his crime and go around humbly kissing the hands of all the spectators, after which he is given a large calabash of anise to drink. The heaviest pun-

ishment is inflicted for witchcraft or sorcery, as the *pulya*, or sorceress, is greatly dreaded by the Indians. She is literally chopped limb from limb; but whereas the bodies of other victims executed in this way are always buried, that of the *pulya* is left for the dogs and vultures to dispose of.

Military service is compulsory for all adult males among the Santa Cruz, though many avoid such service by payment to the chief of a certain sum in money or its equivalent. Small garrisons were kept up at Santa Cruz, Chan Santa Cruz, Bacalar, and other Indian towns where soldiers were permanently stationed. No uniform was provided, though many of the men were armed with Winchester rifles. They were provided also with a ration of corn and beans, and often took their wives along with them as cooks.

Diseases and Medicines

Indian men and women of all ages and classes, when attacked by any serious malady, are found to be lacking in vitality and stamina; they relinquish hope, and relax their grip on life very easily, seeming to hold it lightly and as not worth a fight to retain. An elderly man or woman will sometimes take to the hammock without apparent physical symptoms of disease beyond the anemia and splenitis from which nearly all suffer, and merely announce *He in cimli*, "I am going to die." They refuse to eat, drink, or talk, wrap themselves in a sheet from head to foot, and finally do succumb in a very short time apparently from sheer lack of vitality and absence of desire to continue living.

Malaria is without doubt the chief scourge of the Indian's existence. Many of the villages are built in low-lying situations, with mosquito-breeding swamps all round them, while the scrubby bush and rank vegetation are allowed to grow in the yards right up to the houses, furnishing good cover and an excellent lurking place for the insects; moreover, the Indians seldom use mosquito curtains, as they seem to have acquired a sort of immunity to the irritation caused at night by the noise and biting of the pests. Practically all Indians suffer from malaria, which is the main cause of the splenic enlargement and anemia so prevalent among them. In some cases the spleen reaches an enormous size, nearly filling the abdominal cavity, and deaths from a slight blow or fall, causing rupture of this organ, are by no means uncommon. Malaria is usually treated by means of profuse sweating (*kilcabankil*), the patient lying wrapped in a cotton sheet in the hammock, with a fire burning beneath and drinking sudorific bush medicine. This in itself is an excellent remedy, but in the midst of the sweat patients frequently plunge into cold water, thus becoming thoroughly chilled, a procedure very apt to bring on pneumonia, to which they are peculiarly subject.

The splenic enlargement is treated by applying a number of small circular blisters (*xacal*) containing chichem juice to the skin, over the affected organ, which seem to be remarkably efficacious in reducing the swelling.

In the winter when the nights are cold the Indians often lie out all night in the wet, a practice which frequently results in pneumonia and death. Hookworms and many other varieties of intestinal parasites are prevalent, owing to the earth-eating habits of the children, the earth being taken usually from the immediate vicinity of the house, where pigs and other domestic animals have their quarters. This disgusting habit no doubt accounts in part for the swollen bellies and earthy color of many of the children.

Smallpox (*kak*) invading an Indian village is a terrible scourge, far worse than in a more civilized community of the same size, where partial immunity has been acquired. Sometimes the whole unaffected population depart en masse, leaving the dead unburied and the stricken lying in their hammocks, with a supply of food and water, to do the best they can for themselves. The Indians employ the same mode of treatment for this disease as for malarial fever—sweating followed by immersion in cold water, treatment which, it need hardly be said, is not infrequently followed by disastrous results.

Venereal diseases of all kinds are remarkably rare among all the Indian tribes. Among the Santa Cruz and Icaichè such diseases were practically unknown. Even among the mixed breeds of British Honduras they are comparatively rare, notwithstanding the fact that these natives have come much in contact with people of many other races, especially of late years with Mexican Chicleros, nearly all of whom are affected with venereal disease in one form or another.

Simple fractures of the long bones are set very neatly and skillfully in the following way: The fractured limb is pulled away from the body with considerable force in order to overcome the displacement; over the fractured bone is wound a thick layer of cotton wool, and over this are applied a number of small round, straight sticks, completely surrounding the limb, their centers corresponding nearly to the seat of fracture; these are kept in place by a firm binding of henequen cord. The limb, if an arm, is supported in a sling; if a leg, the patient is confined to his hammock till the fracture is firmly knit. Excellent results are secured by this method, the union being firm, and the limb nearly always uniting in good position.

Bleeding, a favorite remedy for all complaints, is especially resorted to in cases of headache and malarial fever. Usually the temporal vein, less frequently one of the veins in the front of the forearm, is opened, having been first distended with blood by tying a ligature around the upper arm. A chip of obsidian, a sharp splinter of bone, or a snake's tooth, serves as a crude lancet; the use of the last causes

considerable pain, but is believed to have some esoteric virtue connected with it.

Decoctions made from the charred carcasses of animals at one time were much employed, certain animals being regarded as specifics for certain diseases. Thus, during an epidemic of whooping cough (*xinki sen*) a decoction from the charred remains of the cane rat was almost exclusively given to the children to relieve the cough, though in this case it is difficult to trace the connection between the remedy and the disease.

Many eye troubles are treated by placing a small rough seed beneath the lower lid of the affected eye, where it remains for a day; when the seed is withdrawn it is covered with mucus, to which the doctor points as the injurious matter, the cause of all the trouble, which he has removed.

Massage is practiced chiefly for uterine and ovarian pains by the older women, who also act as midwives; it is used also in conjunction with kneading and manual manipulation in the cure of neuralgic pains, strains, stiffness, and rheumatism.

In confinements, which usually take place either in the hammock or on the floor, the dorsal position is invariably assumed. In such cases also massage over the uterus is performed by the midwife. If the desired results are not secured, the patient is made to vomit by thrusting a long coil of hair down her throat, while a woman of exceptional lung power is sent for to blow into her mouth, with the object of hastening delivery.

The Indians use for medicinal purposes a great variety of plants which grow in their country; some of these are purely empirical remedies; others produce definite physiological results and are frequently used with good effect, while a few, apparently on the assumption that "similia similibus curantur," are employed because of some fancied resemblance in form to the diseased part, as *xhudub pek*, twin seeds of the size of small eggs, the milky juice of which is used as an external application for enlarged glands and for various forms of orchitis.

The following plants are used medicinally by the Indians as remedies for the diseases named, respectively:

Acitz.—The milky juice of a tree, used as an application for chronic sores and ulcers.

Acam.—The leaves of this plant are applied hot to reduce the swelling and relieve the pain in enlargement of the spleen and liver.

Purgacion Xiu.—An infusion made from the leaves is administered warm in bladder and urethral troubles.

Pakaal.—An infusion made from the leaves of the orange tree is given as a sudorific.

Pichi.—A paste made from the leaves of the guava is applied to "bay sore," a specific ulcer somewhat resembling "oriental sore."

Pomolche.—A mouth wash made from the milk of this tree is used in cases of stomatitis and ulceration of the mouth.

Quimbombo.—The wild okra is greatly esteemed as an external application in cases of snake bite.

Sisim.—An infusion made from the leaves is used as a sudorific in cases of malarial fever.

Sicilpuz.—A yellowish fruit sometimes used as a purgative.

Cabalpixoy.—The fruit of this tree is given in cases of diarrhea, and an infusion made from the bark is used in diarrhea and dysentery.

Claudiosa Xiu.—An infusion made from the whole bush is greatly esteemed as a bath and lotion in all uterine and ovarian complaints.

Chalche.—The spinous leaf of this plant is used as a local application to relieve neuralgic pains, and an infusion made from the leaves is given for rheumatism.

Chamico.—An infusion made from the leaves of the convolvulus mixed with other leaves is given to relieve asthma and bronchial catarrh.

Chaac.—The arrowroot, eaten raw, is regarded as a useful remedy in all bladder and urethral complaints.

Cuxuc.—The wood, ground into a paste, is applied to the heads of small children suffering from fever and convulsions.

Ruda.—The leaves of this plant are universally used as an external application for children suffering from convulsions, and frequently in the same manner for the relief of almost any nervous complaint in adults.

Pica pica.—A sort of cowhage which, mixed with atol or some corn beverage, is largely used as a vermifuge for children.

GAMES

Both children and adults play many games, most of which have probably been introduced since the conquest. A favorite among these is a game known as *tak in kul*, in which a number of players stand in a row with their hands behind their backs while one, who holds a small pottery disk in his hand, stands behind the row, another standing in front. The one holding the disk places it in the hands of one of those in the line, who in turn passes it to his neighbor, so that it travels rapidly up and down the line. The player in front has to guess in whose hand the disk is at the moment of guessing. If he is right, the holder of the disk has to come in front while the one who guessed correctly joins the line.

Chac is a sort of "knucklebones," played with pottery disks, which are tossed from the palm to the back of the hand and back again; the one who drops fewest disks in a given number of double throws wins the game.

The boys make little bows (*pohoche*) and arrows (*hul*) tipped with black wax, with which they play war and hunting games.

A seesaw made from a small tree balanced on a stump is popular, as is also a sort of merry-go-round constructed from a cross of poles fixed on top of a stump by means of a wooden pin, which rotates freely. The children sit at the extreme ends of the poles and make the contrivance rotate by kicking against the ground vigorously at intervals as they go around.

The bull roarer, made from a dry seed pod, is popular in some villages and is probably one of the few toys used by the natives before the conquest.

Cricket, baseball, marbles, kites, and spinning tops have been introduced among the Indians of British Honduras, and all have their devotees.

RELIGION

The Indians, who are extremely superstitious, believe that the air is full of *pishan*, or souls of the dead. They imagine that these souls are at liberty at all times to return to earth, and that at certain seasons they are compelled to do so. They are regarded as being capable of enjoying the spirit, though not the substance, of food or drink provided for them. Some of these *pishan* the Indians believe to be friendly and some inimical to mortals. They believe also in spirits, usually mischievous or harmful, known as *xtabai*, who often take the form of beautiful women, though they have never been human. The natives will whisper a message into the ear of a corpse with the certainty of having it conveyed to a friend or relative in the next world. They firmly believe that the clay images of the gods upon incense burners, at one time found in considerable numbers in forests which had been uncut since the days of their ancestors, live, walk about, and dance at certain seasons. Another belief held by the Indians is that the images of Christian saints are endowed at times with life and perform acts desired by their devotees. A celebrated wooden image, supposed to represent San Bernardo, was credited with considerable powers in this respect, and when an Indian wanted rain for his milpa, the return of an errant wife, or any similar blessing, he would come and pray to the image to obtain it for him. On one occasion an Indian came asking the saint to aid him in the recovery of pigs which he had lost, and on returning to his village found that the pigs had arrived home before him. Next day he returned with the intention of making an offering to the saint, and incidentally to the owner of the house where the image was kept. He found the poor Santo with torn clothes and many burs sticking all over him. On inquiring how this happened he was informed that the saint had been out in the bush hunting for pigs, a quest which had given him a great deal of trouble before he could find and drive them home, and that when he got back he was tired out, his clothes torn by thorns, and covered with burs—an explanation with which the Indian was perfectly satisfied.

The men are very unwilling to dig either in ancient mounds or ruins, as they are afraid of being haunted by the *pishan* of those whose remains they may disturb; and nothing will induce them to

go into caves or burial chambers in mounds. Many curious superstitions hang about the ruins found throughout the country. I was assured by an Indian at Benque Viejo that he had gone on one occasion to the ruins situated near the village, and seeing a pigeon seated on a tree, raised his gun to shoot it; before he could do so, however, the pigeon turned into a cock, and this almost immediately into an eagle, which flew at him, driving him away. There is another superstition about these ruins to the effect that when the first settlers came to Benque Viejo they wished to build the village near the ruins, where the land is very good for growing corn, but were repeatedly driven off by a little old man with a long gray beard. At last, giving up the idea, they contented themselves with the present site for the village.

For many years, between the expulsion of the Yucatecans from Bacalar by the Indians and the conquest of the latter by the Mexican troops, some 12 years ago, no Catholic priests were permitted to visit the Santa Cruz country. The Indians, however, appointed priests from among themselves, who carried out, so far as can be ascertained from those of their number who left the territory and settled in British Honduras, a sort of travesty of the rites of the Roman Catholic Church freely interspersed with many of those of their ancient religion, which had survived. The headquarters of this religious cult was the capital, where it centered around what was known as the "Santa Cruz," a plain wooden cross, 2 to 3 feet high, which had probably been removed from some church after the expulsion of the Spaniards. This cross was supposed to be gifted with the power of speech (a belief arising no doubt from the exercise of ventriloquial powers by one of the priests), and acted as a sort of oracle, to whom all matters of importance—civil, military, and religious—were submitted for decision. It need hardly be said that the cross never failed to return an answer to all these questions, in entire conformity with the wishes of the chief.[1]

[1] In 1859 a mission was dispatched by the superintendent of British Honduras to the chiefs of the Santa Cruz, with the object of rescuing Spanish prisoners held by them. The following account is from "A narrative of a journey across the unexplored portion of British Honduras, with a sketch of the history and resources of the colony," by Henry Fowler, colonial secretary (Belize, 1879):

"That night as usual all the available Indians in Bacalar arrived in front of the home where the Santa Cruz is kept. The boy attendants or sentries on the idol, called angels, were in front of it and the drums and bugles sounded at recurring parts of the song. The chief was inside with the image and the angels. The subordinate chiefs and soldiers knelt outside, and did not rise until the service was over, when they crossed themselves and rubbed their foreheads in the dust. About 11 o'clock the Indians were heard running backward and forward, and an order was given to bring out the prisoners, who were placed in a line before the Santa Cruz, and a large body of soldiers were placed with them. They all knelt down in the road. There were about 40 female prisoners, with one arm tied to the side, and 12 or 14 men pinioned by both arms. All were calm, except the children, although it was known Santa Cruz was pronouncing their doom. A squeaking whistling noise was heard issuing from the oracle, and when it ceased it was known the Santa Cruz wanted a higher ransom from the prisoners. * * *

"Some of the women and children were separated from the rest, amongst whom was a young Spanish girl well known in high circles. A procession was then formed and marched off to the east gate; first came a strong body of troops, then alternately in Indian file, a male prisoner and his executioner, who drove him on with his machete, holding him by a rope; next came the women, 35 in number, driven and held in a

The Indians here under consideration occupy an intermediate position between the civilized Maya of northern Yucatan, who have lost nearly all tradition and traces of their former civilization, and the Lacandones of the Usumasintla Valley, who have probably changed but little in their customs and religious observances since the conquest. Nominally they are Christians, but the longer one lives among them, and the better one gets to know them, the more he realizes that their Christianity is to a great extent merely a thin veneer, and that fundamentally their religious conceptions and even their ritual and ceremonies are survivals—degenerate, much changed, and with most of their significance lost—but still survivals of those of their ancestors of pre-Columbian days. To Christianity, not as a separate religion, but as a graft on that which they already practiced, they seem to have taken kindly from the first; and at the present day, as will be seen, the sun god, the rain god, St. Laurence, and Santa Clara may all be invoked in the same prayer, while the Cross is substituted in most of the ceremonies for the images of the old gods, though many of the latter are called on by name. The four principal religious ceremonies of the Indians are, as might be supposed, closely associated with agriculture, especially with the corn crop. The first of these ceremonies takes place at the cutting of the bush in which the corn plantation is to be made, the second at the planting of the corn, the third during its ripening, and the fourth at harvest time. Of these the third, known as the *Cha chac*, which takes place during the ripening of the corn, and whose object is to secure sufficient rain for that purpose, is by far the most important, and it alone will be described, as it embraces the offerings and ritual of all the other ceremonies.

The day previous to the ceremony the men of the family prepared the *pib*, an oblong hole in the ground, in which the various corn offerings were to be baked, while during the night the women were busy grinding corn to make masa (a thick paste of ground maize) and pumpkin seeds to make *sikil*. Very early in the morning of the day of the ceremony the priest with his assistant arrived at the house of the giver. This priest called himself *men*, but was called by the owner a *chac*, while the Chichanha priest called himself an *ah kin*. The Indians chose a site in the midst of a grove of large trees. After clearing away the undergrowth they swept clean a circular space about 25 feet in diameter. In this they proceeded

similar manner; then another body of soldiers closed the rear; the Englishmen were not allowed to follow. The procession halted under a clump of trees about 150 yards off. And soon the butchery commenced; shrieks were heard, but in 10 minutes all was over.

"The Santa Cruz was mixed up with some Catholic rites, but retains the leading characteristics of the god who was best propitiated by placing bleeding human hearts within his lips."

In 1863 the Icaichè were beaten by the Santa Cruz, and, says the chronicler: "The account of the slaughter and human sacrifice made on that occasion is appalling."

to erect two rude huts, one 12 feet the other 6 feet square; both were thatched with huano leaf, and the floor of the smaller hut was covered with wild plantain leaves. In the center of the larger hut was erected a rough altar 6 by 4 feet and 4 feet 6 inches high, built of sticks bound together with bejuco (fig. 11). The central part of this

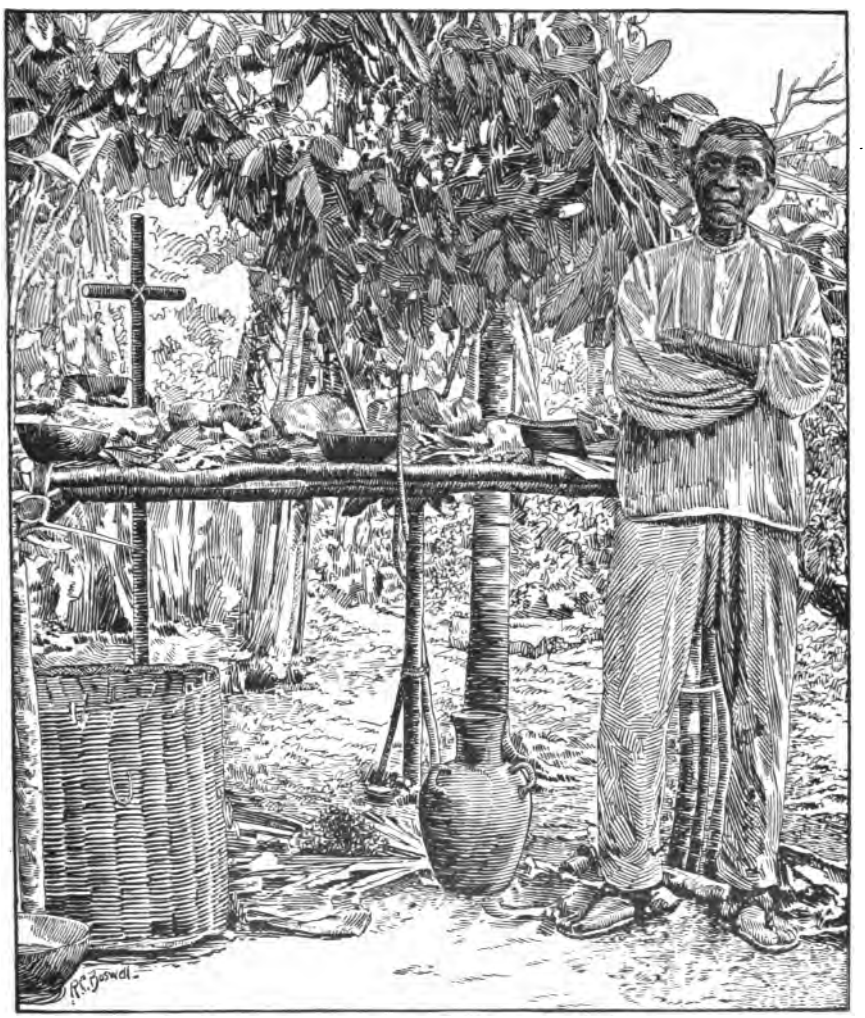


FIG. 11.—Chichanha Indian priest in front of altar at Cha chac ceremony.

altar was covered by an arch of "jabin" branches with the leaves still attached. About a dozen small calabashes in their ring supports (Maya *chuyub*) were placed on the altar, and three more were hung to a string passing from the side of the shed to a post a few yards away. The masa prepared the previous night was then brought out in four large calabashes, two of these being placed under the altar

and two on top of it; a large calabash of *sikil* and one of water were also placed on the altar and a jar of *balchè* (a drink made of fermented honey in which is soaked the bark of a tree) beneath it. Beneath the suspended calabashes was placed a small table containing piles of tortillas and calabashes of masa and water. In carrying out this ceremony it is essential that everything used in it be perfectly fresh and new; the leaves, sticks, bejuco, and jabin must be freshly cut, and the masa, *sikil*, *balchè*, and even the calabashes must be freshly made. The masa was taken from the large to the small shed, where the priest and several male members of the family sat around it. After flattening out a small ball of the masa the priest placed it on a square of plantain leaves and poured over it a little *sikil* (a thin paste made of ground pumpkin seed and water). Then the next man flattened out a piece of masa, which he placed over the *sikil*, and the process was continued until a cake was formed containing 5 to 13 alternating layers of masa and *sikil*. On top of each cake, as it was completed, the priest traced with his forefinger a cross surrounded with holes; these were first partly filled with *balchè*, which was allowed to soak into the cake, after which they were filled completely with *sikil*, whereupon the whole cake was carefully tied up in plantain leaf, with an outer covering of palm leaf (fig. 12). These cakes are known as *tutiua;* their number is generally gauged by the number of participants in the ceremony. When *sikil* is not available, a paste of ground black beans is used; in this case the cakes are known as *buliua* (Maya *bul*, "bean"; *ua*, "bread"). The priest next made a deep depression in a ball of masa about the size of a tennis ball, which he filled with *sikil*, covering it with the masa, so as to leave a ball of

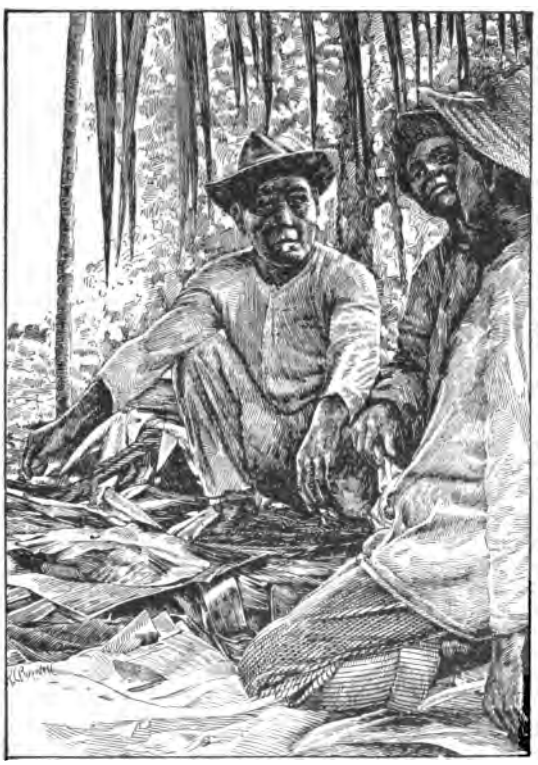


FIG. 12.—Priest tracing cross on cake and filling it in with sikil.

masa with a core of *sikil*. A number of these balls, known as *yokua*, were made, each wrapped in plantain leaves. When finished, all of them were wrapped in a large palm leaf and tied into a bundle with split palm-leaf strands. Two more *tutiua* were next made, and lastly all the masa and *sikil* left were mixed together with a few ounces of salt. After being well kneaded this mass was divided into two portions, each of which was tied up in plantain and palm leaf coverings. In the meantime some members of the family had filled the *pib* or

FIG. 13.—Sacrificing a turkey at the Cha chac ceremony.

oven with firewood, over which they placed a layer of small blocks of stone. The priest next made a bowl of *sachà* (literally "white water," a drink made from ground corn and water), with which he filled the small calabashes on the altar, as well as the suspended calabashes; these he explained were for the *tuyun pishan*, or solitary souls. A turkey and four fowls were then placed in front of the altar, alive, while the priest lighted a black wax candle by blowing a piece of glowing wood to a flame; this candle he placed upon the altar. He next took up the turkey, around whose neck the assistant had placed

a wreath of jabin leaves, and poured a little *balchè* down its throat, its legs being held by the assistant (fig. 13). While doing this the priest murmured the following prayer:

In kubic ti hahnal cichpan colel, ti San Pedro, San Pablo, San Francisco.

Translation

I offer a repast to the beautiful mistress, to San Pedro, San Pablo, San Francisco.

The turkey and the other fowls were then killed by having their necks wrung, and the carcasses of all five were removed to the house to be prepared by the women. The various bundles of masa and *sikil* in their leaf coverings were next removed to the *pib*, where the fire had burned itself out, leaving the hole half full of ashes and red-hot stones. A lining of plantain bark was laid over the stones, upon which the bundles were arranged; over these were placed more hot stones and over the latter palm leaves; lastly, the earth which had been dug from the *pib* was raked over all. The priest next took a small quantity of the *sachà* from a calabash, in a jabin leaf, and scattered it on the ground in three directions, meanwhile murmuring this prayer:

Cin kubic ti atepalob, ti noh yum kab yetel uahmetan, atepalob, tiaca tzib nah.

Translation

I offer to the majestic ones, to the great lord, corn cake, great ones. [*Tiaca tzib nah* is somewhat obscure. The reading, according to Don Juan Martinez, of Merida, should be *tia ca ɔib-nah*.]

Afterward the priest repeated the performance with *sachà* from the calabashes on the altar, and lastly with some from the calabashes of the *tuyun pishan*. The *sachà* was then distributed in calabashes to the participants, it being essential that every drop of it be drunk. After a wait of about an hour all proceeded to the *pib*, which, after it had been sprinkled by the priest with *balchè* from a small calabash, was opened. The red-hot leaf-wrapped bundles were carried to the small shed, where the coverings were removed, exposing the *tutiua* and *yokua*, crisp, brown, and hot. These were placed upon the altar, with the exception of one *tutiua*, which was tied to the string holding the calabashes of the *tuyun pishan*. The cakes made from the remainder of the masa and *sikil* were now crumbled into a large calabash and mixed with another large calabash of *kool* (a reddish liquid made from water, ground corn, black pepper, and achiote). The two mixtures were stirred with a peeled wand of jabin till they formed a thick paste known as *sopas*. While the *sopas* was being made the hearts, heads, and intestines of the fowls were removed to the *pib* where they were buried, lest some animal by eating them should defile the offering. The cooked and dismembered turkey and other fowls were brought out to the small shed in calabashes; the livers, gizzards, and immature eggs were chopped up fine and well mixed with the *sopas*. A small

calabash full of this mixture was placed with the calabashes of the *tuyun pishan*, while the rest, in a large calabash, the fowls' claws standing upright in it, was placed upon the altar, together with the dismembered birds wrapped in a clean cotton cloth. The priest next removed some *balchè* from the jar and filled a calabash, which he placed upon the altar, as he did so murmuring these prayers:

Ea, in cichpan colel kanleoox, yetel bacan tech in cichkelem tat yum San Isidro, ah kolkal, yetel bacan tech yum kankin, culucbalech ti likin, yetel bacan in chanttupchaac, culucbal chumuc caan, ti likin, yetel bacan yum canchaacoob; kin kubic yetel bacan ahooil atepalo chumuc caan, yetel bacan tech in cichkelem tata ahcanan kakabool, yetel bacan tech in cichkelem tata Cakaal Uxmal, yetel bacan tech in cichpan colel Santa Clara, yetel bacan tech in cichkelem tata yum xualakinik, yetel bacan tech in cichpan colel Xhelik, yetel bacan tech in cichkelem tatayum Santo Lorenzo, yetel bacan tech in cichpan colel Guadelupe, yetel bacan tech tun yum Mosonikoob, meyahnaheex ichil cool kat tocah. Cin kubic bacan letie Santo Gracia, utial a nahmateex, yetel bacan tech u nohchi Santo uai yokol cab halibe in yumen sates ten in cipil. Minan a tzul pachkeech letie Santo Pishan, Ooki in mentic letie Santo Promicia.

Translation

Now my beautiful lady of the yellow-leaf breadnut, as well as you, my handsome father San Isidro, tiller of the earth; as well as you, lord sun, who art seated at the east; as well as you, Chanttupchaac, who art seated in the middle of the heavens, in the east; as well as you, Yumcanchaacoob: I deliver to you, with the majestic servants in the middle of the heavens. As well as you, my handsome father, Ahcanankakabool; as well as you, my handsome father Cakaal Uxmaal; as well as you, my beautiful lady Santa Clara; as well as you, my handsome father Xualakinik; as well as you, my beautiful lady Xhelik; as well as you, my handsome father San Lorenzo; as well as you, my beautiful lady of Guadelupe; as well as you, Lord Mosonicoob, that blows within the milpa when it is burnt. I deliver then to you this Holy Grace, that you may taste it, and because you are the greatest Santos on earth. That is all my master. Pardon my sins; you have not to follow the holy souls, because I have made this holy offering.

Cin Kubic ti nah tatail, ti u cahil San Roque, u cahil Patchacan, ti Chan Sapote.

Translation

I offer you, great father, for your town of San Roque, your town of Patchacan, and Chan Sapote.

The assistant then brought up some burning incense (*pom*) on a piece of plantain bark, which the priest took, and after waving it about for a short time placed it upon the altar, after which he dipped out a small portion of *balchè* and scattered it in three directions, murmuring while doing so the following prayer:

Noh Nah ti Uxmal, ti atepaloob Ixcabach Chen Mani, ti Xpanterashan, Chacanchi, Chacantoc, ti Xnocachan, Xcunya, Yaxutzub, Yaxaban, ti atepaloob.

Translation

Great house of Uxmal, of the majestic Ixcabach, Chen Mani, of Xpanterashan, Chacanchi, Chacantoc, of Xnocachan Xcunya, Yaxatzub Yaxaban of the majestic ones.

A small portion of *balchè* was next passed around to each of the participants, the priest again scattering a little on the ground and repeating the prayer. The calabash, which was now nearly empty, was then removed to the house for the benefit of the women. It was soon brought back by the assistant and refilled from the jar, and the same procedure gone through again. This was repeated till no more *balchè* remained to be drunk. The priest then scattered some of the *sopas* in four directions, using one of the fowls' claws to scoop it up from the calabash, after which what remained of the *sopas* was divided up among the participants, each one being given a calabash in which a fowl's claw was placed for use as a fork. A small quantity of the mixture which remained was taken to the house for use of the women. Lastly the priest removed the *tutiua* and *yokua* from the altar, and divided these among the participants, giving each one at the same time a corn-husk cigarette. The ceremony was now finished, and the last act was completely to destroy all the objects used in it, including buildings, altar, calabashes, and *chuyubs;* this was done by fire.

This Cha chac ceremony as performed by the Santa Cruz and Icaichè Indians bears a strong resemblance to certain ceremonies performed before the conquest, in honor of the Chacs, or Rain gods, and also to ceremonies carried out at the present day by the Lacandon Indians.

The names given to the modern priests were, according to Landa, all in use in his day. The Chacs were four old men chosen to assist the priests.[1] The *men* was an inferior priest or sorcerer, while the name *Ahkin* [2] was applied after the conquest, both to their own and to Christian priests by the Maya. Landa also mentions (Chap. XL, p. 260) a fiesta given to the Chacs, in conjunction with other gods, held in one of the plantations, when the offerings were consumed by the people after being first presented to the gods; these offerings consisted of turkeys and other fowls, corn cake, *sikil*, and *posol*,[3] all of which are used in the modern Maya Cha chac.

The god Yumcanchacoob (Lord of all the Chacs) of the Santa Cruz probably corresponds to Nohochyumchac (Great Lord Chac) of the Lacandones, as does the Ahcanankakabol (keeper of the woods) of the Santa Cruz, to the Kanancash of the Lacandones, whose name has practically the same significance. A belief in *Xtabai*, or spirits, and *Ikoob*, or Wind gods, seems common alike to the Santa Cruz, the Lacandones, and the Indians of Yucatan.

[1] "Los *chaces* eran quatro hombres ancianos elegidos siempre de nuevo para ayudar al sacerdote a bien y complidamente hazer las fiestas."—LANDA, op. cit., chap. XXVII, p. 160.

[2] "En contrario llamavanse y se llaman oy los sacerdotes en esta lengua de Maya *Ahkin*, que se deriva de un verbo *kinyah*. que significa 'sortear ó echar suertes.'"—LANDA, ibid., p. 362.

[3] Landa, ibid., chaps. XXXV, p. 212; XXXVI, p. 222.

PART 2. MOUND EXCAVATION IN THE EASTERN MAYA AREA

INTRODUCTION

Classification of the Mounds

In the following pages is a description of the mounds opened during the last few years in that part of the Maya area now constituting British Honduras, the southern part of Yucatan, and the eastern border of Guatemala (pl. 7). For descriptive purposes these mounds may be divided, according to their probable uses, into six main groups:

1. Sepulchral Mounds.—This group includes mounds which, originally constructed for other purposes, were afterwards used as burial sites.

2. Refuse Mounds.—This group includes kitchen middens, shell heaps, deposits of waste material remaining after the manufacture of lime, and heaps of stones gathered from the surface of the ground.

3. Foundation Mounds.—As the buildings themselves invariably stood on the summits of flat-topped mounds, such mounds, capped with the débris of the earlier structures, formed the bases of later ones.

4. Defensive Mounds.—Some of these mounds were crescent-shaped; others were in the form of a horseshoe.

5. Lookout Mounds.—These mounds extend in chains, at intervals of 6 to 12 miles, along the coast and up some of the rivers; they are lofty, steep-sided, and usually form the nuclei of groups of other mounds. As a rule they contain neither human remains nor artifacts, though in one or two of them superficial interments seem to have been made at a comparatively late date.

6. Mounds of Uncertain Use.—No trace of human interment was found in these mounds. Many of them are too small at the summit to have supported buildings, and it seems probable that they are sepulchral mounds, in which no stone, pottery, or other indestructible objects were placed with the corpse, and in which the bones have entirely disintegrated. The larger mounds of this class, many of them flat topped, are carefully constructed of blocks of limestone, marl dust, and earth, and no doubt at one time served as bases for buildings—either small temples or houses—which, being built of wood, have long since vanished.

Most of the mounds are distributed in small and large groups, the latter usually containing one or more examples of each class, the former consisting for the greater part of small burial mounds, probably of late date, as they are less carefully constructed than the mounds of the larger groups, and the objects which they contain are of rougher and cruder workmanship.

The burial mounds comprise more than half of all the mounds opened, followed in order of numbers by (a) foundation mounds; (b) mounds of uncertain use; (c) refuse mounds; (d) lookout mounds; (e) defensive mounds.

It has been found that, as a rule, rich land contains many mounds; poor land, fewer; and sour-grass savannah, pine ridge, and swamp, none at all. The better the land the more numerous the mounds scattered over it, as is natural, since the more fertile the land the denser the population it would sustain. Not all the mounds opened have been described, as small burial mounds, especially in the same group, in both construction and contents, resemble one another closely, as do foundation mounds also.

This part of the Maya area must either have been occupied during a very considerable period or at one time must have supported a dense population, as wherever it is possible to cultivate the soil, especially to raise maize, mounds are to be found in great abundance; moreover, the surface everywhere bears such indestructible rubbish as potsherds, flint chips, and fragments of obsidian knives. It would probably be impossible to find anywhere in this area an acre of moderately good land on which dozens of such objects could not be discovered. This indicates that what is now dense tropical bush, with a few small Indian villages scattered through it at considerable intervals, was at one time a highly cultivated and thickly populated country.

Referring to Yucatan before the conquest, Landa uses the words, "toda la tierra parescia un pueblo;" [1] while 200 years after the conquest Villagutierre [2] mentions by name 10 tribes with whom the Itzas were at war, who lived to the east of the lagoon, nine days' journey away—in a region corresponding to the territory of coastal tribes of British Honduras and Quintana Roo.

[1] Que estas gentes tuvieron mas de XX años de abundancia y de salud y se multiplicaron tanto que toda la tierra parescia un pueblo, y que entonces se labraron los templos en tanta muchedumbre, como se vee oy en dia por todas partes y que atravesando por montes se veen entre las arboledas assientos de casas y edificios labrados a maravilla.—LANDA, op. cit., p. 58.

[2] Que en Años passados tuvieron quatro Batallas con los Indios Aycales (que son los Mopanes) Chinamitas, y Tulunquies, y Taxchinchán, Nob, y Acabob, Zuacuanob, Ahtimob, Teyucunob, Ahchemob, Ahcamulob. . . . y que todas estas Naciones estavan viviendo juntas al Leste, ú Oriente, y que de aquél Peten, á sus Poblaciones, avia nueve dias de Camino, que era el que ellos gastavan en ir á ellas.—VILLAGUTIERRE, Historia de la conquista de la provincia de el Itza, p. 554.

Ancient Inhabitants of the Region

From the contents of the mounds we are able to deduce many valuable facts relating to the physical appearance, social life, religion, and art of the former inhabitants of this area.

PHYSICAL APPEARANCE

A very accurate idea of the physical appearance of these people may be derived from the figurines, paintings, stucco moldings, and skeletons found in the mounds. It would appear that they very closely resembled the modern Maya Indians.[1] They were broad of face, with small features and rather high cheek bones; without beard or mustache, but with straight, black, coarse hair, which was allowed by both men and women to grow long.

The skull was naturally brachicephalic, and as this characteristic was (and is now by the Maya) admired, it seems to have been almost invariably accentuated artificially by pressure applied over the occipital and frontal regions during early infancy.[2] The average cephalic index of eight skulls removed from the mounds was found to be 110. The following list gives the average lengths of a number of bones of adults taken from the mounds, though in no case were all the bones of one individual found in a sufficiently perfect condition to permit of their accurate measurement:

Humerus, 29.21 cm.
Ulna, 25.38 cm.
First phalanx (little finger), 3.04 cm.
Femur, 36.83 cm.
Tibia, 33.27 cm.
Metatarsal bone of great toe, 5.33 cm.

The bones are small, the ridges for muscular attachment not well marked, and the phalanges, metacarpal, and metatarsal bones small and delicate, indicating a body with rounded contours, poor muscular development, and small extremities. The front teeth in some cases were filed, in others filled with round plugs of obsidian, iron pyrites, or jadeite, for ornamental purposes.

[1] Son en lo personal, estos Indios Itzaex, bien agestados; color trigueño, mas claro que el de los de Yucatán. Son agiles, y de buenos cuerpos, y rostros, aunque algunos se los rayavan, por señales de valentia. Traian las Cabelleras largas, quanto pueden crezer: Y assi, es lo mas dificultoso en los Indios el reduzirlos á cortarles el pelo; porque el traerlo largo, es señal de Idolatria.—Villagutierre, op. cit., p. 498.

Que los Indios de Yucatan son bien dispuestos y altos y rezios y de muchas fuercas.—Landa, op. cit., p 112.

[2] Que las indias criavan sus hijitos en toda aspereza y desnudez del mundo, porque a cuatro o cinco dias nacida la criatura la ponian tendidita en un lecho pequeño hecho de varillas, y alli boca abaxo le ponian entre dos tablillas la cabeça, la una en el colodrillo, y la otro en la frente, entre las quales se le appretavan reciamente y le tenian alli padeciendo hasta que acabados algunos dias le quedava la cabeça llana y enmoldada como lo usavan todos ellos.—Landa, op. cit., p. 180.

DRESS

Among the lower class the men seem to have worn no garment except the *maxtli*, consisting of a loin-cloth wound several times around the waist, the ends hanging down in front and behind, like small aprons. The women wore two garments, similar to those of the modern Maya, the *huipil*, or loose, sleeveless upper garment reaching to the hips (at the present this is worn longer, reaching well below the knees) and a short, loose skirt, both of cotton, and both embroidered in colors at the borders.[1] The warriors wore in addition to the *maxtli* a breastplate of thick quilted cotton, saturated with salt, arrow and spear proof, and ornamented with bows, studs, and tassels. To its upper border was attached a hollow bar, through which passed a cord, continued round the back of the neck, holding the breastplate in place.

Both warriors and priests wore very elaborate headdresses. Those of the former were decorated with plumes of feathers and many of them held in front the head of some animal carved in wood,[2] as the jaguar, eagle, peccary, snake, or alligator. Some of the headdresses of the priests were shaped like a bishop's miter, while others resembled the Egyptian headdress. All classes wore sandals of leather or platted henequen fiber. The ornaments worn consisted of large circular ear plugs of shell, greenstone, or pottery, many with a tassel dependent from the center; studlike labrets at each side of the mouth; and occasional triangular ornaments attached on each ala of the nose. Round the neck were worn strings of beads, some in the form of human or animal heads, others with a gorget of greenstone or shell in the form of a human mask dependent from them. Wristlets and anklets of large oval beads, fastened with ornamental loops, were common, and copper finger rings have been found on two occasions, though it is possible that these may not have been introduced till after the conquest. Among the upper classes the ornaments were made from jade, greenstone, iron pyrites, obsidian, mother-of-pearl, and copper; among the lower, from pottery, shell, and stone.

WEAPONS

The offensive weapons of the natives here dealt with consisted of flint and obsidian tipped arrows,[3] javelins, and spears, flint and stone

[1] Sus vestiduras, de que vsavan, eran vnos Ayates, ó Gabachas, sin Mangas, y sus Mantas, todo de Algodón texido de varios colores: Y ellos y las Mugeres, vnas como Faxas, de lo mismo, de cosa de quatro varas de largo, y vna tercia de ancho, con que se ceñian, y cubrian las partes; y algunas al canto, ú orilla, mucha Plumeria de colores, que era su mayor gala.—VILLAGUTIERRE, op. cit., p. 498.

[2] Tenian algunos señores y capitanes como moriones de palo y estos eran pocos, y con estas armas ivan a la guerra, y con plumajes y pellejos de tigres, y leones, puestos los que los tenian.—LANDA, op. cit., p. 172.

[3] Y en las orillas de la Playa, solo se veían amontonadas la multitud de Flechas, que la resaca de las olas avia llevado á Tierra. De adonde se puede inferir, quan inmenso seria el numero de ellas, que los Infieles arrojaron á los Pobres Christianos.—VILLAGUTIERRE, op. cit., p. 483.

axes, with slingstones, and stone-headed clubs, made for the most part of hard limestone. Their defensive weapons were small circular shields of leather-covered wickerwork and thick cotton breastplates.

HOUSES

The lower classes probably lived exclusively in thatched pimento-walled houses, identical in construction with those used by the Maya of the present day; naturally, these have completely disappeared, but the former sites of villages composed of such huts may easily be recognized by the presence of half-choked wells and the great number of malacates, broken pots, weapons, implements, ornaments, and rubbing stones, which are to be found scattered all over them. The priests, caciques, and upper classes doubtless lived in the stone houses, the remains of which lie buried in considerable numbers in the mounds. The walls of these houses were of stucco-covered stone and lime, the floors of hard cement, and the roofs, no doubt, of beams and thatch, as many of them are too wide to have been covered by the so-called "American arch."

Many of these buildings were doubtless used as temples, but probably the majority of them were private houses.[1] In one of them an interment had taken place beneath the floor of the house before the structure was destroyed.[2]

ARTS

The former inhabitants of this part of the Maya area do not seem to have fallen far behind those of northern Yucatan in the arts of sculpture upon stone, stucco molding, mural painting, ceramics, and the manufacture of stone implements and weapons, as excellent examples in all these fields have been found.

At Seibal, Holmul, Naranjo, and Benque Viejo, cities of the old Empire lying along the British Honduras-Guatemala frontier, examples of sculptured stelæ and altars have been found, equal in fineness of workmanship to those found at any other site within the Maya area. The molded stucco figures at Pueblo Nuevo are beautifully executed, while the painted stucco upon the temple walls at Santa Rita is probably the finest example of this kind of decoration yet brought to light in the whole Maya area. The colors used (green, yellow, red, blue, black, and white) seem to have been derived from colored earths and vegetal dyes ground to a paste in small shallow stone

[1] Estava en vn gran Salón, cuyos Techos eran de Paja, y las Paredes de Cal, y Canto, de vna vara de alto, bruñidas, como el suelo, y en ellas estrivava el Maderage de lo levantado en la Casa.—VILLAGUTIERRE, op. cit., p. 392.

Estava poblada toda ella de Casas, algunas con Paredes de Piedra, de cosa de mas de vara de alto, y de allí arriba Maderas, y los Techos de Paja, y otras de solo Madera, Y Paja.—Ibid., 494.

[2] Enterravanlos dentro en sus casas o a las espaldas dellas, ... Comunmente desamparavan la casa y la dexavan yerma despues de enterrados.—LANDA, op. cit., p. 196.

mortars with spatulate flint grinders, which have been found with traces of paint still adhering to them. Ornaments in the form of human and animal faces and heads nicely cut from jadeite and greenstone are not uncommon. Some bear incised hieroglyphic inscriptions. The greenstone shell from Kendal, described later on, in its fineness of finish and accurate imitation of the natural form, is a remarkable example of gem cutting.

Most of the domestic pottery used was of a rather coarse hard red ware. This comprises large amphora-like water jars, shallow dishes, saucers, and bowls, used probably to hold food; cooking pots of various sizes and shapes, chocolate pots with upright spouts, and disks for baking tortillas. In addition to these, thick brittle vessels of very coarse pottery, some of exceptionally large size, are found, which were probably used as receptacles for corn, beans, pepper, and other light dry substances. Of the finer kinds of pottery some are ornamented with incised devices, executed after the vessels had been fired, others are covered with devices in polychrome, and still others with ornaments molded while the clay was plastic. Lastly, these three methods, or any two of them, may be combined in the decoration of any one vessel.

The objects most frequently depicted on the vases are human heads, simple glyphs, animal and mythological figures, and flowers. Most of the vessels are polished, some of them to a high degree, but the art of glazing does not seem to have been understood. The finer kinds of pottery are thin, tough, light, and very hard. The appliqué work, displayed best in incense burners, upon which the figure of the god in high relief is built up bit by bit, is rather coarse, but in some examples very effective. Stone implements and weapons of great variety have been discovered, including ax, spear, javelin, and arrowheads, knives, clubs, throwing stones, hammerstones, scrapers, chisels, borers, paint and corn grinders, fiber cleaners, and many others. Flint, chert, obsidian, greenstone, and limestone were the materials most commonly used in the manufacture of implements and weapons. Very remarkable eccentrically shaped objects, including crosses, crescents, rings, and a variety of other forms, chipped with great care and precision, from flint, chert, and obsidian, are also found, though not in great numbers. They seem to be confined almost exclusively to this part of the Maya area.

MUSICAL INSTRUMENTS

With the exception of clay whistles of from one to four notes, no musical instruments have been found in the mounds, unless the hollow cylinder (10½ inches high by 4 inches in diameter) from Yalloch may be regarded as a small hand drum similar to those men-

tioned by Landa as having been in use at the time of the conquest,[1] and somewhat resembling the clay jar with a piece of gibnut hide stretched over the opening for a head, still in use as a drum among the Lacandones.[2] The late Sir Alfred Moloney obtained in the village of Succots a *tunkul*, or wooden drum, with two rubber-tipped drumsticks, which had been brought by the Indians from Guatemala at the time of their emigration from that country. This had been handed down from Alcalde to Alcalde from time immemorial, and was used to summon the villagers on special occasions, as a fire or the election of new Alcaldes.

FOOD

The staple article of diet among the ancient Maya seems to have been maize, as it is at the present day among their descendants. Numbers of rubbing-stones and rubbers, both broken and whole, are found in the mounds, as are also the clay disks used for baking corn cakes. The bones of various animals, which had probably been used for food, are also found; among these are the peccary, gibnut, armadillo, puma, tapir, and manatee, together with woula (snake), alligator, and (of birds) the curassow and wild turkey. Shells of the conch, cockle, oyster, and fresh-water snail are also found in abundance. The Maya probably kept small domestic animals and birds,[3] as great numbers of rough stone troughs are found in the mounds, precisely similar to those manufactured and used by the modern Maya Indians for watering their fowls, while eggs, with turkeys and other birds, have been found, held in the hands of figurines upon the incense burners, as offerings to the gods. They seem to have made periodical expeditions to the cays and islands off the coast to fish and collect shellfish, as quantities of net-sinkers, flint chips, potsherds, and broken javelin heads are found on many of the cays. But few mounds, however, which give evidence of permanent human occupancy have been discovered in this situation.

SPINNING AND WEAVING

Judging by the great number of spindle-whorls found in the mounds and on village sites, cotton spinning must have been practically universal among the women. Oval perforated stones of a size suitable for loom weights have been found, and it is probable that

[1] Tienen atables pequeños que tañen con la mano, y otro atabal de palo hueco de sonido pesado y triste; tañenlo con un palo larguillo puesto al cabo cierta leche de un arbol.—LANDA, op. cit., p. 124.

[2] The drum is composed of a clay jar about twenty inches high. Over the top of the jar is stretched a piece of the hide of the *tepeizquinte* for a head. The whole drum is painted white. On one side near the top there is a head similar in all respects to that found in all the sacred ollas. This head, as it has been explained, represents one of the lesser gods called Qaiyum.—TOZZER, A Comparative Study of the Mayas and the Lacandones, p. 111.

[3] Crian aves para vender de Castilla, y de las suyas y para comer. Crian paxaros para su recreacion y para las plumas para hazer sus ropas galanas.—LANDA, op. cit., p. 190.

they were used as such, as they do not seem to be adapted to any other purpose. With this exception we learn nothing of the art of weaving from the contents of the mounds. Henequen fiber was doubtless used for the manufacture of rope, mats, hammocks, and other objects, as grooved flat stones for beating the pulp from the fiber are common.

GAMES

The appliances for at least two distinct games have been found.[1] The first consists of a large spherical block of limestone, nicely polished, and about 1 foot in diameter, found associated with 6 to 12 smaller spherical stones, each about 3 inches in diameter, of very light material somewhat resembling pumice stone. The second consists of a number of small disks of shell, about three-fourths of an inch in diameter. Collections of these have been found together on several occasions; they might have been used as beads or ornaments but for the fact that they are neither perforated nor decorated with incised figures as shell beads usually are.

RELIGION

Of the 15 gods of the codices classified by Schellhas five may be recognized in this area with a fair degree of certainty. God A, the god of death, in the form of a human skull, decorates the outside of not a few small pottery vessels, and is depicted upon the painted stucco wall at Santa Rita. God B, the long-nosed god, is usually identified with Cuculcan. Representations of this god are found throughout the whole area in great abundance, painted upon pottery and stucco, incised on bone and stone, and modeled in clay. This god is associated with the cities of Chichen Itza and Mayapan, and is supposed to have entered Yucatan from the west; indeed it is possible that he may originally have been the leader of one of the Maya immigrations from that direction. He appears to have been by far the most popular and generally worshiped deity in this area, and it is his image which is found on nearly half of all the incense burners discovered. God D, probably Itzamna, appears in the codices as an old man with a Roman nose, shrunken cheeks, toothless jaws, and a peculiar scroll-like ornament beneath the eye, to the lower border of which are attached two or three small circles. In some representations a single tooth projects from the upper jaw, and in a few the

[1] Por lo qual se usava tener en cada pueblo una casa grande y encalada, abierta por todas partes, en la qual se juntavan los moços para sus passatiempos. Jugavan a la pelota y a un juego con unas habas como a los dados, y a otros muchos.—LANDA, op. cit., p. 178.

Two curious stones, which may have been used in some game, were discovered in a small burial mound in the Orange Walk district of British Honduras some years ago. They were made of nicely polished crystalline limestone, about one foot in diameter, and shaped very much like curling stones without handles. The upper part of each was traversed by two round holes, about one inch in diameter, which passed completely through the stone, near its summit, and crossed each other at right angles.

face is bearded. This god is not infrequently found associated with the serpent. A typical representation of him is seen upon the Santa Rita temple wall;[1] here he is depicted standing upon intertwined serpents, holding in his right hand a feather-plumed serpent. This god is represented upon some incense burners, and is found not infrequently associated with Cuculcan.

God K, the god with an elaborate foliated nose, often closely associated with God B, his face in some cases forming the headdress ornament of the latter god, is unmistakably depicted upon the Santa Rita temple wall.[2] God P, the Frog god, is found on some small pottery vases, and on a few incense burners. Nothing found in the mounds proves definitely the practice of human sacrifice in this area, but that it existed is almost certain, as Villagutierre refers to it as prevalent among the Itza of Peten at the time of their conquest,[3] at the end of the seventeenth century, and Landa mentions it as occurring among the Maya at the time of the coming of the Spaniards.[4] Near the headwaters of the Rio Hondo a mound was opened, which contained, in a stone-walled chamber, a number of human skulls unaccompanied by other bones. It is possible that these may have been the remains of sacrificial victims, as it was customary to remove the head of the victim after death, which became the perquisite of the priests.

Human sacrifice among the Maya was probably a somewhat rare event, taking place only on extraordinary special occasions, as in times of public calamity—for example, during the prevalence of famine, war, or pestilence—when it was felt that a special propitiatory offering to the god was called for. This practice was confined to one, or at most to a very small number of victims, never reaching the proportions which it did among the Aztec, by whom it was probably introduced into Yucatan. The main offering of the Maya to their gods seems to have consisted of an incense composed of copal gum and aromatic susbtances. Landa mentions this as largely employed at the time of the conquest; Villagutierre encountered it among the Itza at the end of the seventeenth century; and Tozzer found it in use among the Lacandon Indians at the present day. The incense itself has been found all over this area, as well as great numbers of incense burners.

---

[1] See Nineteenth Rep. Bur. Amer. Ethn., pl. xxx, fig. 8.

[2] Ibid., pl. xxix, no. 3.

[3] Á la primera vista encontraron con la Messa de los Sacrificios, que era vna Piedra muy grande, de mas de dos varas y media de largo, y vara y media de ancho, con doze assientos, que la rodeavan, para los doze Sacerdotes, que executavan el Sacrificio.—VILLAGUTIERRE, op. cit., p. 392; ibid., p. 457; ibid., 482.

[4] Que sin las fiestas en las quales, para la solemnidad de ellas, se sacrificavan animales, tambien por alguna tribulacion o necessidad, les mandava el sacredote o chilanes sacrificar personas, y para esto contribuian todos, para que se comprasse esclavos, o algunos de devocion davan sus hijitos los quales eran muy regalados hasta el dia y fiesta de sus personas, y muy guardados que no se huyessen o ensuziassen de algun carnal peccado, y mientras a ellos llevavan de pueblo en pueblo con vailes, ayunavan los sacerdotes y chilanes y otros officiales—LANDA, op. cit., p. 164.

In addition to incense, the blood of fish, birds, and animals was smeared over the images of the gods, as an offering, together with human blood obtained by cutting the ears, tongue, genitals, and other parts of the body. The hearts of various animals, together with live and dead animals (some cooked and some raw) and all kinds of foods and drinks in use among the people,[1] were also employed as offerings to the gods. In the hands of figurines upon the incense burners are found, modeled in clay, fruit, flowers, eggs, cakes, birds, small animals, and other objects, all evidently intended for the same purpose.

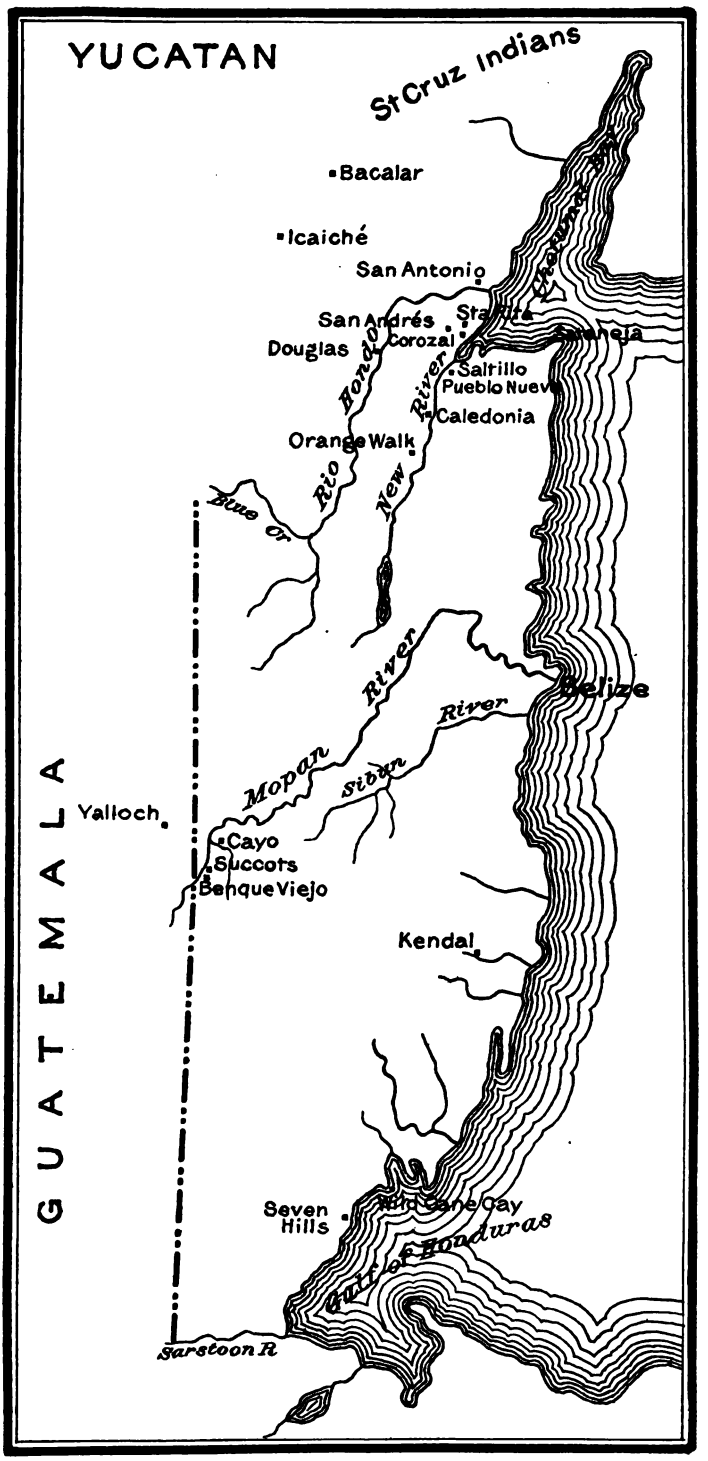
CHRONOLOGY

Three distinct periods of Mayan civilization seem to be represented in this area. The center of the earliest of these was along the Rio Grande, in southern British Honduras, within 20 miles of the Guatemala frontier, where the Leyden Plate was discovered, upon which is inscribed the earliest but one known Maya date—namely, Cycle 8, Katun 14, Tun 3, Uinal 1, Kin 12. If the massive stone-faced pyramids and terraces of these ruins are contemporaneous with the Leyden Plate, as seems possible, they must be reckoned among the earliest monuments of the first, or southern Maya, civilization. The Benque Viejo temple, in the extreme western part of British Honduras, comes next in point of time. This was almost certainly contemporaneous with its near neighbor, Naranjo, where the earliest Initial Series found is 9.10.10.0.0, and the latest 9.19.10.0.0, giving the city an age of at least 9 katuns, or 180 years. It will be seen that the difference between the Leyden tablet date and the earliest recorded date at Naranjo is rather more than 16 katuns, or 320 years.

The latest of all the sites is undoubtedly Santa Rita, which shows strong Mexican influence; this belongs to the second era of Maya civilization, which reached its highest development in Yucatan and the northern cities. Excluding the Tuluum Stela, the date upon which, 9.6.10.0.0, is almost certainly not contemporaneous,[2] the only Initial Series deciphered with certainty in Yucatan up to the present time is that at Chichen Itza, 10.2.9.1.9, nearly 3 katuns, or 60 years, later than the latest at Naranjo; but probably the Santa Rita site is much later in date than this, and if we may judge by the objects found in the mounds in the vicinity, some of which show strong Spanish influence, it was occupied up to and beyond the conquest.

[1] Mas de todas las cosas que aver podian que son aves del cielo, animales de la tierra, o pescados de la agua, siempre les embadurnavan los rostros al demonio con la sangre dellos. Y otras cosas que tenian ofrecian; a algunos animales les sacavan el corazon y lo ofrecian, a otros enteros, unos vivos, otros muertos, unos crudos, otros guisados, y hazian tambien grandes ofrendas de pan y vino, y de todas las maneras de comidas, y bevidas que usavan.—LANDA, op. cit., pp. 162-164.

[2] Recent examination of the Tuluum Stela has brought to light upon it, in two places, the glyph representing the lahuntum, and the date 7 Ahau; now 7 Ahau occurs as a lahuntun ending in 10.6.10.0.0 (approximately 695 A. D. of our era) which is almost certainly the contemporaneous date of the Stela.



SKETCH MAP OF BRITISH HONDURAS, WITH ADJACENT PARTS OF YUCATAN AND GUATEMALA. INDICATING THE POSITIONS OF MOUNDS EXCAVATED

DESCRIPTION OF MOUNDS

MOUND NO. 1

Mound No. 1 (No. 24 on the plan of Santa Rita (fig. 14), situated midway between Nos. 6 and 22) was conical in shape, nearly circular at the base, 18 feet high, and 90 feet in circumference. It was built throughout of large irregular blocks of limestone, the interstices being

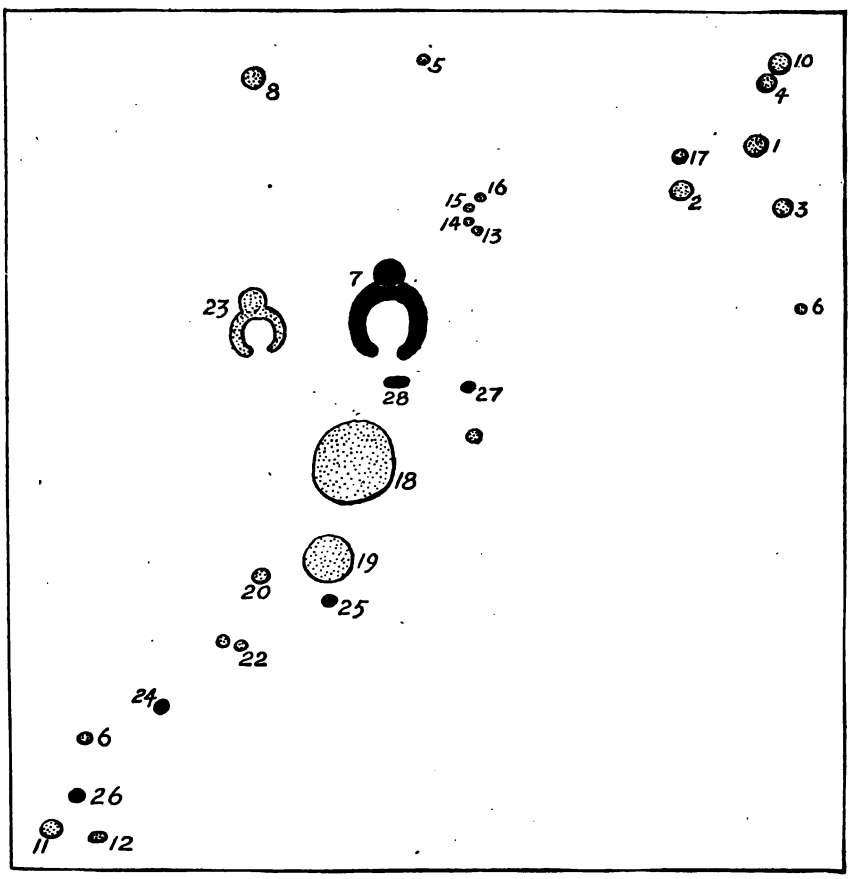


FIG. 14.—Plan of Santa Rita mounds.

filled with limestone dust and earth, forming together a sort of friable mortar, which rendered the whole structure nearly as compact as a solid block of masonry.

Excavation near the center of the mound, at a depth of 2 feet below the surface, brought to light a large circular disk of roughly hewn limestone, 3 feet in diameter by 8 inches thick. On lifting this it was

found to cover the mouth of a bell-like cist, nearly 3 feet in diameter and about 5 feet in depth. On opening the cist, which was slightly narrower at the bottom than at the top, it was found to be nearly half filled with very fine brown dust, at the bottom of which lay a roughly made circular urn 18 inches in diameter, covered by a mushroom-shaped lid.

The urn was filled to the top with small crudely executed pottery figurines of men and animals. There were 49 of these in all, consisting of 4 warriors, with shield and spear, 3 seated human figures, 4 standing figures (eating and fanning themselves), 4 lizards, 4 alligators, 4 snakes, 4 birds, 4 dragon-like creatures, 4 tigers, and 14 quashes or picotes. The warriors (pl. 8) are represented in a crouching position, with the right knee and left foot upon the ground; each holds in the right hand a small spear and on the left forearm a circular shield.[1] Two of them exhibit tusk-like objects projecting from their mouths. The figures are 4½ inches high; they are painted in red and white throughout. The headdress consists of a boat-shaped cap worn with the bow and stern projecting over the ears. The seated figures (pl. 9; fig. 15) are each 6 inches in height; these are painted throughout in red, white, and green. Each is seated upon a low four-legged stool, and grasps in one hand by its greatly enlarged spatulate glans the projecting penis, on which he is seemingly performing some sort of surgical operation with a long knife held in the other hand.

FIG. 15.—Figurine from Mound No. 1.

The headdress consists of a mitre-like erection in front, with a long queue hanging down to the waist behind. Button-like labrets are worn on each side of the mouth in two of the figures, and all wear large circular ear plugs. The standing figures (fig. 16) are each 5½ inches high, and had been painted throughout in red and white, though not much of the original color now remains. The headdress consists of a broad flat cap decorated in front with a row of circular beads, and on each side with a large tassel, which hangs down over the ear plugs. Each figure wears a small narrow *maxtli* and button-like labrets at each angle of the mouth. In one of the figures the right

[1] Tenian lançuelas cortas de un estàdo con los hierros de fuerte pedernal . . . Tenian para su defensa rodelas que hazian de cañas hendidas, y muy texidas redondas y guarnecidas de cueros de venados.—LANDA, op. cit., pp. 170–172.

FIGURINES OF WARRIORS FROM MOUND NO. 1

FIGURINES FROM MOUND NO. 1

hand is extended, while the left holds a circular fan. In the other the forearms are flexed at right angles, with hands held open in front of the waist, as if about to receive something. The lizard effigies, though crudely made, are most lifelike representations about 6 inches in length. The alligators resemble very closely those taken from another mound at Santa Rita.[1]

The tigers and dragon-like creatures are exactly similar to those figured in Nos. 6 and 4 of the same plate. The bird and snake effigies are very crude and ill made; the former, about 1½ inches in length, represent birds in the act of flying, with wings extended. The snakes, each represented with a double curve in the body, are about 5½ inches

FIG. 16.—Figurines from Mound No. 1.

in length and one-half inch in diameter; they are made of rough clay, painted red. The effigies of the quashes, though rough and crudely made, are rather vigorous and lifelike in execution. Each is about 3 inches long. This small arboreal animal, which abounds in the district, is represented in a variety of comical positions; so well indeed has the artist studied his model that one can not help thinking that he must have kept some of the little animals as pets, as many of the Maya Indians do at the present day. The figures when first found were so brittle that it was impossible to remove them from the pot without breakage, as they had been seemingly only sun dried. After exposure to the sun and air, however, for a few days they gradually hardened.

[1] Figured in Nineteenth Rep. Bur. Amer. Ethn., pl. xxxiv, No. 5.

The only unpainted object found in the urn was a natural-size model of the human penis, in a state of semierection (fig. 17). This differed from all the other objects in that it had been fired, instead of merely sun dried, and is on that account much harder. Upon the upper surface of the glans penis are three longitudinal incisions, extending almost from base to apex, evidently made with a sharp-pointed implement while the clay was still soft.

With these figurines a number of perforated beads of jade and some of a dark-red stone, all nicely polished, were found; also the tooth of a large alligator, perforated at the base, evidently for suspension with the beads.

About 6 feet to the north of the center of the mound, at a depth of 3 feet below the surface, was discovered a small stone cist or chamber, 18 inches square, built of roughly cut blocks of limestone. Within this were found most of the bones of a male of medium height and fair muscular development. These bones were exceedingly friable, but showed no effects of fire; with the exception of the tibiæ, they were in no way abnormal. The upper articular surface of the right tibia had disappeared. The shaft was rounded in section, the prominent angles at the front and sides being obliterated. It was slightly bowed, with the convexity anteriorly, and was considerably enlarged, especially in its upper two-thirds, which were composed chiefly of very friable cancellous tissue, rendering the bone much lighter than its appearance indicated. The surface of the upper part of the bone was marked by the presence of a number of small pits or depressions. Of the left tibia only a few fragments were found, but so far as could be judged from these a change somewhat similar to that observed in the right tibia had taken place in it. The bones and other objects found in this mound would suggest at first sight the possibility of the individual buried beneath it having suffered during life from some form of venereal disease, closely allied to, if not identical with, syphilis. On reading Landa's account[1] of two forms of ceremonial self-mutilation carried out by the Yucatecan Maya at the time of the conquest there

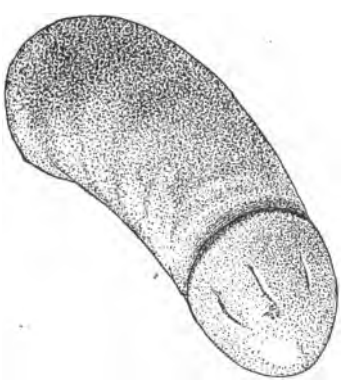


FIG. 17.—Unpainted object from Mound No. 1.

[1] Otras, se harpavan lo superfluo del miembro vergonçoso, dexandolo como las orejas, de lo qual se engaño el historiador general de las Indias, diziendo que se circumcidian. Otras vezes hazian un suzio y penoso sacrificio añudandose los que lo hazian en el templo, donde puestos en rengla, se hazian sendos agujeros en los miembros viriles al soslayo por el lado, y hechos passavan toda la mas cantidad de hilo que podian quedando assi todos asidos, y ensartados; tambien untavan con la sangre de todas estas partes al demonio y el que mas hazia, por mas valiente era tenido.—LANDA, op. cit., p. 162.

can be little doubt, however, that the figurines shown in plate 9 and figure 15 are meant to represent individuals inflicting on themselves one or other of these, but, owing to the crudeness of the workmanship, it is difficult to determine which. In one the foreskin was pierced and expanded in much the same way that the ears were treated when sacrificing to the idols. In the other, a number of men, sitting in a row in the temple, each pierced his glans penis from side to side, and passing a long piece of cord through all the apertures, strung themselves together in this way.

Mound No. 2

Mound No. 2 (No. 25 on the plan, fig. 14) was situated a short distance to the south of Mound No. 19. It was circular at the base, conical in shape, 6 feet high at its highest point, and 40 yards in circumference. On the summit of the mound, partially buried in the earth, was found a conch-shell, much worn by the weather, with the tip cut smoothly off, and still capable of being used as a trumpet. The surface layer of the mound was composed of earth, in which were embedded a few limestone blocks. Within this layer, which was 18 inches thick, near the center of the mound and a few inches beneath the surface, was found a turtle, hewn from a block of limestone, measuring 13 inches in length and 10 inches in breadth. The next layer was composed of ashes, charcoal, and pieces of half-charred wood. This layer, which varied from 3 to 8 inches in thickness, extended evenly over the whole surface of the mound, and within it were found 16 beads of jade, two small round three-legged vases, and the fragments of two pottery images. The beads were all perforated and finely polished; two of them represented human faces, and one the head of some animal, probably an alligator. One is unusually large, measuring $3\frac{3}{4}$ inches in length by $\frac{3}{4}$ inch in breadth.

The clay images are so fragmentary as not to be worth figuring, but in construction, ornamentation, and size they appear to be almost identical with those found in the mounds at Santa Rita, already described.[1] One of the vases is $3\frac{1}{4}$ inches and the other $2\frac{3}{4}$ inches in height; both are ovate. All the objects taken from this layer show traces of having been exposed to the action of fire. The beads are all more or less cracked and blackened, and the pottery images and vases are discolored. The next layer was composed of mortar, embedded in which were numerous pieces of limestone; it varied in depth from 18 inches to 2 feet. The upper part of this layer, to a depth of 2 to 3 inches, was yellow and very hard, and seemingly had been fired; the lower part was lighter in color and very friable. Within this layer, toward the center of the mound, was found the

[1] Gann, Mounds in Northern Honduras.

alligator effigy shown in figure 18. This animal is 15½ inches in length from the snout to the tip of the tail. The interior is hollow, and in the center of the dorsal region is a circular opening 3½ inches in diameter, surrounded by a rim 1½ inches high and covered by a saucer-like lid. Within the widely opened jaws is seen a human face, having at each corner of the mouth a small pottery disk, and in the ears two large circular ear plugs.[1] Between the eyes of the alligator are two claw-like horns, 1 inch in length, each terminating in three curved prongs, which point forward. Within the body were found two small perforated beads of polished jade. The inside of the jaws is colored red; the whole of the body, together with the head and limbs, is colored brown; the forehead and cheeks of the face held between the animal's jaws are colored blue; the nose, mouth, and chin, white.

FIG. 18.—Clay alligator found in Mound No. 2.

This is by far the largest and most carefully modeled of the pottery figurines found at Santa Rita, the smallest detail having received careful attention, and the scales, claws, and teeth being separately and accurately formed.[2] The fourth and deepest layer was 2½ feet

[1] These large round ear plugs seem to have been universally worn; they are found in the paintings, on figurines, and on the incensarios. The plug may be funnel shaped or flat, plain, or decorated with a stud, rosette, or tassel. Describing the ear ornaments worn by the Itzas, Villagutierre says: "Si bien muchos de ellos rayadas las caras, y abujereadas las orejas. . . . Y que algunos Indios traían puestas, en las orejas que traíã, vnas Rosas de Plata, y otros las traían de Oro; y otros de Oro, y Plata."—VILLAGUTIERRE, op. cit., pp. 402–403.

Landa, speaking of the Maya women, says: "Horadavanse las orejas, para ponerse zarzilloa al modo de sus maridos."—LANDA, op. cit., p. 182.

[2] Figurines of animals with human heads projecting from their widely opened jaws are common in this area. The turtle, alligator, tiger, shark, and snake are usually the animals selected. Thomas says of this figure: "If we may judge from its use there is no doubt that the Mexican *cipactli* figure is a symbol of the earth or underworld. The usual form of the day symbol in the Mexican codices is shown in plate LXIV, 16, and more elaborately in plate LXIV, 17." [These correspond almost exactly with some of the figurines found.] "As proof that it indicates the earth, or underworld, there is shown on plate 73 of the Borgian Codex an individual, whose heart has been torn from his breast, plunging downward through the open jaws of the monster into the shade of the earth below. . . . It is therefore more than likely that the animal indicated by the Mexican name of the day is mythical, represented according to locality by some known animal which seems to indicate best the mythical conception. Some figures evidently refer to the alligator, and others apparently to the iguana; that on plates 4 and 5 of the Dresden Codex is purely mythical." THOMAS, Day Symbols of the Maya Year, p. 212.

Spinden explains these part human, part animal, monsters differently. He regards the human face as symbolical of the human mind contained within the animal body of the god.—A Study of Maya Art, pp. 35 and 62.

in thickness, and was built of blocks of limestone, each weighing from 50 to 200 pounds, roughly fitted together, without clay or mortar to fill in the crevices. Scattered all through this layer were great numbers of fragments of pottery censers decorated externally with human figures; nearly 150 pounds of these were taken from it, representing probably 20 incense burners. The whole of the pottery when first found was exceedingly brittle, but hardened in a few hours on being exposed to the air and sun. At the bottom of this layer, and resting on the ground, were found a number of pieces of black porous material with a peculiar odor. The bottom of a large round pot, 10 inches in diameter, was also found full of the same substance, which is probably a mixture of copal gum with various aromatic substances, which had been used as incense and partially charred at the bottom of the incense burner. Fragments of the bottoms of round pots were found scattered about on the ground level, many of them having bits of this charred incense still adhering to them.

The mound appears to have been constructed in the following manner: First, a number of pieces of burning incense and round jars containing the same substance were strewn thickly over an area approximately 40 yards in circumference; next a foundation or platform 2½ feet in height was formed by placing together a number of large rough blocks of limestone, among which were scattered the fragments of about 20 incense burners, decorated outside with human figures in high relief. Over this was plastered a layer of mortar 18 inches to 2 feet in thickness in which was embedded the alligator seen in figure 18. Fires were lighted on top of this mortar till its upper layers were discolored, and into the fire while still burning were thrown fragments of two clay images, two small oval vases, and a number of beads. Over the ashes and charcoal left by the fires earth and blocks of limestone were heaped to a height of 18 inches, and in this layer was buried the stone turtle already referred to; finally on top of the earth layer was placed a conch-shell trumpet.

Mound No. 3

Mound No. 3 (No. 26 on the plan, fig. 14) was situated immediately between Mounds Nos. 6 and 11. It was roughly circular in shape, 120 feet in circumference and 3 feet in height. On being dug away to the ground level it was found to be composed of earth and small blocks of limestone, among which were numerous potsherds and fragments of terra-cotta images, though the latter were so small that it was impossible to tell how many images they represented. The potsherds varied very much, some being rough and undecorated, others polished and well painted in geometrical devices. Fragments of flint spearheads and obsidian knives were also found in this mound.

70806°—18—Bull. 64——5

On reaching the ground level the opening of a narrow passage 18 inches square was discovered which led obliquely downward toward the east for a distance of 8 feet; it was lined with roughly squared flags of limestone and terminated in a small stone-lined chamber 2 feet square. On the floor, half buried in fine dry earth, lay a small urn, roughly made of coarse pottery, neither painted nor glazed. It was circular in form, 38½ inches in circumference, with a semicircular handle at each side, and was covered by a mushroom-shaped lid; with the lid in situ the whole formed a somewhat irregular sphere. In the urn and almost completely filling it were 20 small pottery figurines, comprising 3 warriors, 1 seated human figure, 4 alligators, 4 dragons, 6 quashes or picotes, and 2 serpent-like creatures.

The warrior figures resemble very closely those found in Mound No. 24 (see pl. 8), the only difference being that while two of them hold shields on their left forearms, and grasp spears in their right hands (as in pl. 8), the third warrior from this mound grasps a long dagger, instead of a spear, in his right hand. The seated figure is very similar to those from Mound No. 24 (see fig. 15), the only difference being that the glans penis is grasped in the left hand while the right hand wields the knife. The alligators are closely similar to those already described, except that they are solid throughout instead of being hollow. They are painted red, white, and black, and vary in length from 5½ to 6½ inches. The tigers are similar to those found in Mound No. 24, but are rougher, and not so carefully modeled; all are hollow and are painted red throughout. The four dragon-like creatures vary from 6 to 7 inches in length; the body, which is round and slender, ends in a flattened bifid tail; the mouth, which is held wide open, is furnished with a set of formidable teeth. Upon the upper lip is a horn-like excrescence, and over the thorax are one dorsal and two lateral fins. Each animal is painted white over the whole surface; the inside of the mouth is painted red over the white layer. The six quashes are exactly similar to those found in Mound No. 24, as are also the two serpents.

Mounds containing animal and human effigies appear to be singularly limited in their distribution. At Santa Rita seven have been explored in all, each containing 1 to 49 effigies, some very crudely and roughly made from sun-dried clay, others nicely modeled and painted in various colors. Probably several more of these mounds had been removed by the former owners of the estate to obtain stone for building and road-making purposes, as figurines similar to those taken from the excavated mounds were found in the possession of coolie laborers working on the estate, which they said they had found from time to time when digging for stone. The effigies comprise figures of men, alligators, turtles, quashes, lizards, birds, sharks,

and snakes, together with two-headed dragons and other mythologic animals. Similar mounds containing animal effigies have been found at Douglas, about 18 miles southwest of Santa Rita; at Bacalar, 25 miles northwest; at Corozal, less than a mile south; and near San Antonio, about 9 miles north of it. In each of these localities only a single effigy was found, the workmanship of which resembled so closely that of the Santa Rita specimens that it would be difficult to decide from which locality they had come.

So far as it has been possible to ascertain, no similar human and animal effigies have been previously discovered in this section of the Maya area. The significance of these figurines appears to be somewhat obscure. They are not invariably found associated with human remains, though this may be owing to the fact that the bones have completely perished through decay or because cremation has been practiced. They show no signs of use or wear and were evidently made only to be buried. The hollow specimens frequently contain one or more beads of red shell, greenstone, or clay in their interiors, while in most cases they have been found associated with fragments of pottery incense burners, which in this region seem to have been very commonly mortuary in use. On the whole it seems probable that these figurines were merely votive offerings to the gods, buried with the dead. Some of them may indicate the occupation of the individual with whom they were buried. A priest and warrior from the same mound have been described, whose occupant may have combined the double office, while a small statuette of an old man, with a macapal slung over his shoulders, by a strap passing across the forehead (typical of an Indian laborer of the present day), was found by a coolie digging out stone from a mound at Santa Rita many years ago.

Mound No. 4

Mound No. 4 (No. 7 on the plan of the Santa Rita mounds)[1] has recently been excavated, together with nearly the whole of the earthwork on its south side. The mound was circular at the base, conical in shape, 57 feet in height, 471 feet in circumference, and was built of blocks of limestone held together by mortar. On the south side of the mound and continuous with it was a circular earthwork 100 yards in diameter. The walls inclosing the circular space varied from 10 to 25 feet in height. They were higher toward the north, where they were continuous with the large mound, and lower toward the south, where an opening 30 feet wide gave access to the inclosure. The summit of the mound was truncated, circular, and about 20 feet in diameter. It was covered by a layer of alluvial

[1] Figured in pl. xxxviii of the Nineteenth Rep. Bur. Amer. Ethn., as the Great Central Lookout Mound.

earth 4 inches in thickness, on removing which the following objects were brought to light, lying on the layer immediately subjacent, near the center of the mound: (a) A leaf-shaped spearhead of very light yellow flint, 5 inches in length; (b) a leaf-shaped spearhead of reddish flint, 5½ inches in length; (c) an eccentrically-shaped flint object (fig. 19, *a*), 4¼ inches in breadth by 2¾ inches in depth, of light grayish flint, very neatly and carefully chipped; (d) a large, well-made flint arrowhead, deeply grooved on each side of the base, 2½ inches in length, and of light grayish color (fig. 19, *b*); (e) the broken end of a roughly chipped flint hook or crescent (fig. 19, *c*). With these flint objects were found a small red-stone bead and a quantity of pieces of broken images, as arms, legs, faces, hands, breastplates, etc., in rough pottery. Below the alluvial layer the mound was composed of large blocks of limestone, held together by mortar, giving it the consistency of masonry and rendering digging in it very difficult. At a depth of 6 feet a small oblong chamber was opened, built of rough blocks of limestone, about 8

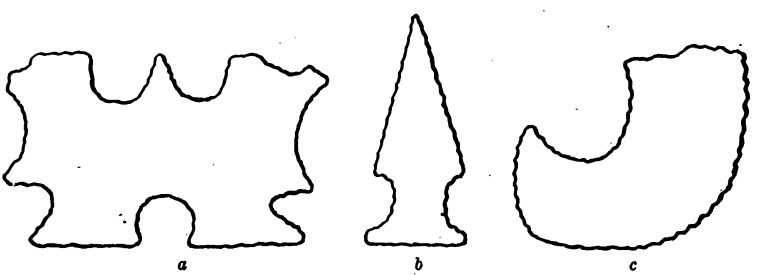


FIG. 19.—Objects from Mound No. 4.

feet by 3 feet, within which were found fragments of human bones, the head pointing to the north. At both head and feet a few very roughly chipped spearheads were found. At a depth of 10 feet another small chamber, 4 feet in length by 2 feet in height and 2 feet in breadth, was opened, also composed of rough blocks of limestone. Within this were four basin-shaped vessels; two, somewhat larger than their fellows, were superimposed upon them (fig. 20). These basins were made of rough pottery, colored yellow, with a broad red stripe round the rim. Each was pierced by a pair of small round holes, 1 inch apart, repeated at equal intervals four times round the circumference, about one-half inch from the margin. The perforations in the upper vase corresponded exactly to those in the lower when they were discovered, suggesting that they had been connected by cords of henequen fiber, *ti-ti*, or some perishable material which had disintegrated. It was considered certain that these vessels would contain a number of the small pottery figures which similar vessels from neighboring mounds had yielded. On removing the cover from the first one, however, it was found to contain nothing

but a small quantity of impalpable dust. The second contained about an equal quantity of similar dust, together with a small rough opal. The excavation of this mound was continued to a depth of about 18 feet, but nothing further was discovered.

The circular space inclosed within the earthwork was surfaced by a layer varying from 2 feet to 3 feet in thickness, resting on the bed-rock, and composed of rubble and powdered marl beaten into a compact mass, covered by two layers of cement, one beneath the other, which formed a smooth level floor over the whole inclosure. A great part of the earthwork and the rubble from the floor of the inclosed space have been removed to repair the Corozal streets. Nothing, however, was found within them with the exception of a few broken flint axheads and spearheads, some hammerstones (which are found practically everywhere), fragments of obsidian knives, and quantities of potsherds. Plate 10 shows a section through the earthwork in process of removal at its western extremity.

The wall is 21 feet 8 inches in height at this point, though only about 17 or 18 feet are shown in the photograph, as the ground was filled up behind the men excavating by a heap of limestone dust 3 or 4 feet high, left after the stones had been removed. The wall is composed here from the ground up of—(1) a layer of small rubble, 18 inches in thickness, the stones composing which had apparently been picked off the land; (2) a layer of cement, 6 to 8 inches in thickness (the upper surface of this layer is continuous with the upper surface of the cement covering the inclosed space, and the two together evidently formed originally one continuous flat, smooth pavement); (3) a layer of large rough blocks of limestone, 8 feet in thickness, built in together with some care, but without the intervention of mortar (these blocks had evidently been quarried out especially for this purpose, as they were quite fresh and showed no signs of weathering); (4) a cement layer 3 feet in thickness, composed of alternate thin layers of bluish gray cement and thick layers of yellowish cement, which can be faintly seen in the photograph. At the point B, plate 10, were found a quantity of ashes and small pieces of charred wood; the large stones in the neighborhood were also blackened by the action of fire, and ashes were mixed with the lower part of the cement layer, which would seemingly indicate that a large fire, lasting a considerable period, had been kept up at this point on top of layer *c* before the cement capping was added. The top layer, 8 feet high, is composed of loose, friable mortar with rough blocks of limestone set in it irregularly and finished with a conical cap. In the

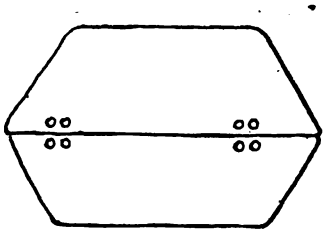


FIG. 20.—Pottery vessels from Mound No. 4.

upper center of plate 10, *b*, may be distinguished a trench, 3 feet in width, which runs through the whole thickness of this layer. Its walls are composed of rough limestone blocks mortared together. The trench was completely filled in with small loose rubble similar to that found in layer *a*.

The high, steep, solidly constructed mounds, the bases of many of which are connected with more or less circular earthworks, were probably lookouts or observation mounds. Most of these mounds terminate in a narrow flattened summit too small to have supported even the smallest temple, while many of them form the centers or nuclei of other groups of mounds. Few contain anything besides the stone, mortar, and earth of which they are constructed, though some of them contain superficial interments. That at Santa Rita is exceptional in that it includes stone-faced cysts. These mounds extend in a more or less regular chain along the coast of Quintana Roo and British Honduras, reaching from the top of Chetumal Bay nearly as far south as Northern River, and extending inland in a southwesterly direction along the courses of the Rio Hondo and Rio Nuevo, though many are situated at a considerable distance from either sea or rivers.

Mound No. 5

Mound No. 5 (No. 27 on the plan, fig. 14), situated about 200 yards to the southeast of the fortification, was 3 feet in height, 30 feet in diameter, and nearly circular. It was built of blocks of limestone, rubble, limestone dust, and earth. Many of these blocks had evidently been taken from some building, as they were well squared. About the center of the mound, at the ground level, a small cyst was discovered, 3 feet long, 2 feet broad, and 1 foot high, built throughout of rough flags of limestone. Within it were two vases; one, shown in figure 21, *a*, is of rough unpainted pottery, 4½ inches high, with a small earlike projection on each side, each of which is ornamented with an ear plug. Vases with these earlike projections and ear plugs are not uncommon in this area, and are probably highly conventionalized incense burners. The figure of the god outside (which, as will be shown later on, was represented after a time by the face only) has here had every feature and ornament of the face eliminated with the exception of the ears and ear plugs, which would always be unmistakable.

The other, seen in plate 11, is an egg-shaped vase standing on three short legs. It is decorated outside with a human face and was originally painted white throughout and ornamented with black lines. It has a small opening at the top covered by a triangular stopper. Within this vase were found two small polished beads, one of greenstone, the other of red shell. Throughout the mound were found numerous fragments of incense burners, with the small head of a

a. SECTION THROUGH EARTHWORK INCLOSING CIRCULAR SPACE, SANTA RITA

b. SECTION OF WALL THROUGH SANTA RITA

EGG-SHAPED VASE FROM MOUND NO. 5

tiger, 2 birds, 5 small beads, 2 malachates, 4 net sinkers, and the ceremonial bar shown in figure 21, *c*; all in rough pottery. About 5 feet from the northern edge of the mound were found human bones, representing a single interment, seemingly of a male of middle age. The skull and long bones, which were very brittle, though they hardened on being exposed to the air for a day, were gotten out only in fragments. The molar and premolar teeth are heavily coated with tartar but are not greatly worn down at the crown; the incisors, on the other hand, are very much worn and in life must have been nearly level with the gum. Marked attrition of the incisors seems to be present in nearly all the teeth of individuals past middle life found in sepulchral mounds throughout this area, which

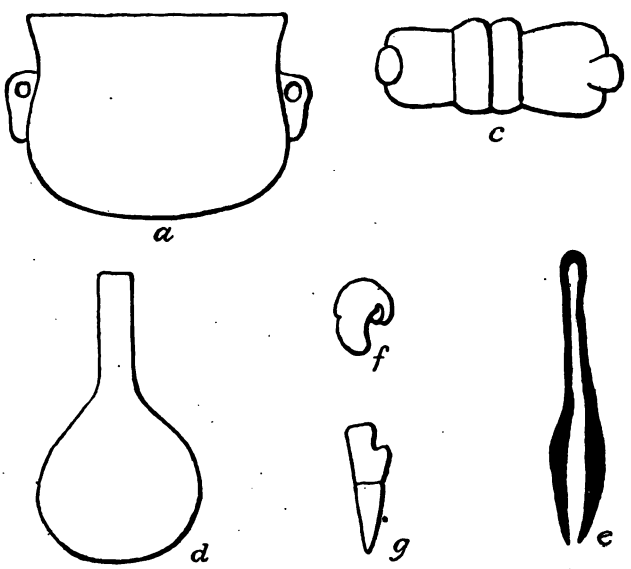


FIG. 21.—Objects found in Mound No. 5.

is rather remarkable, as the staple diet of the ancient inhabitants must have been nearly identical with that of the Indians of the present day; that is, maize ground to a fine paste on a stone metate, which of necessity contains a good deal of grit from the metate, so much so that the modern Maya say that an old man eats two rubbing stones and six rubbers during his life. This gritty *nistamal* wears down the back teeth of the modern Maya almost to the gum, but does not materially affect the front teeth; yet it is the latter, not the former, which we find affected in maxillæ from the mounds. One of the molar teeth from this burial has had a triangular piece removed from its crown (fig 21, *f*). Along one edge of the gap left the tooth is carious.

Mingled with the human bones were found: (a) A flat, oblong object, made of finely polished bone, 1 inch broad and one-tenth inch thick. Its original length could not be determined, as the upper part had been broken away. (b) Three beads, one of polished greenstone, two of polished red shell; one of the latter was 1¼ inches long, with two incomplete perforations passing through it longitudinally. It had probably been intended to form part of a wristlet. (c) Parts of three small obsidian knives which had evidently seen considerable use, as their edges were much chipped. (d) The curious object shown in figure 21, *d*, front view, and *e*, side view. It is made of copper, and was evidently used as tweezers, either for the removal of hair, for which purpose it would be admirably adapted, as the lower expanded parts of the blades when pressed together come into such close apposition that the smallest and most delicate hair can be removed by means of them;[1] or for the extraction of small thorns from the skin. Landa mentions the fact that the Maya were in the habit of removing the hairs from their chins and lips, but if this little implement was the only one employed for the purpose the custom can not have been a very common one in this locality, as no other similar specimen was found in any of the mounds. Passing from north to south through the mound, about 8 feet from its center, were two parallel rows of limestone flags, set perpendicularly, about 18 inches apart. Against the outer of these rows lay a considerable accumulation of animal bones, probably those of the tapir. In the space between the outer row of flags and the edge of the mound were found 10 oblong blocks of limestone, averaging 18 by 10 inches, the upper surfaces of which were hollowed out to a depth of 3 or 4 inches. These were probably intended as water receptacles for the use of fowls or small animals kept about the home, as precisely similar small stone troughs are made and used by the modern Indians for this purpose. The space between the rows of flags was floored with mortar, but nothing was found within it.

Mound No. 5 A

Mound No. 5 A (No. 28 on the plan, fig. 14) was situated within a few yards of the opening into the circular earthwork attached to Mound No. 7. It was long and narrow, nowhere exceeding 2 feet in height. It was built throughout of small limestone bowlders, mixed with a large proportion of black earth. The limits of the mound were difficult to define, as the earth of which it was

[1] Landa, in mentioning the beardlessness of the Yucatecans at the time of the conquest, says it was reported as being brought about by applying hot cloths to the chins of the children. This seems improbable. "No criavan barbas, y dezian que les quemavan los rostros sus madres con paños calientes, siendo niños, por que no les naciessen, y que agora crian barbas aunque muy asperas como cerdas de tocines."—Landa, op. cit., p. 114.

The pure-blood Indians of the present day have but a very scanty growth of hair on the face and pubes, and in some cases even the few straggling hairs which they possess are pulled out.

built had been washed down and mingled with the surrounding soil to so great an extent that it was almost impossible to determine where one began and the other ended. This mound or ridge has not as yet been completely explored, but in the part which has already been dug down two interments were found. The first was quite superficial, about 1 foot below the surface, near the eastern extremity of the ridge. The bones were those of a well-developed male, of rather unusual height and muscular development for a Maya Indian; they were in an exceptionally good state of preservation, though not protected from the surrounding earth by cist or burial chamber. Unfortunately, the skull was smashed into small fragments by a careless blow of the pickax before it was realized that a burial existed at the spot. The body appeared to have been buried lying upon the right side, with the legs flexed at the knees and thighs. From one of the incisor teeth a quadranglar piece had been cleanly removed (fig. 21, *g*). Unfortunately, the tooth in contact with it on the other side could not be found, so that it was impossible to ascertain whether a corresponding piece had been removed from this also. The tooth was much worn at the cutting edge. Landa describes a grinding down of the teeth to a sawlike edge, for ornamental purposes, practiced by the Yucatecans at the time of the conquest,[1] and it seems probable that this tooth was operated on for a similar purpose.

With the bones were found: (a) An oblong piece of marble-like stone, 2 inches long, 1½ inches broad, and 1 inch deep, polished on all its surfaces, probably used for smoothing or burnishing; (b) what appeared to be a piece broken from a rubbing stone which had been squared, and which showed marks on its upper surface indicating that it had been used for giving an edge to stone implements; (c) fragments of rough unpainted pottery.

The second interment was that of a child 8 to 10 years of age. The site of this burial was within a few feet of the first, at a depth of about a foot below the surface. The bones, which were in a fair state of preservation, were in contact with the earth of which the mound was built. The corpse appeared to have been laid on the side, with the legs drawn up. With the bones were found only a few ornaments broken from pottery incense burners, as ear plugs, small animal heads, and part of a quilted breastplate.

This mound was probably of a much later date than the other mounds described at Santa Rita. It is merely an irregular ridge built of earth and stones, while the earlier mounds just referred to are well defined and constructed of blocks of limestone with rubble, limestone dust, and mortar filling in the interstices. The bones,

[1] "Tenian por costumbre acerrarse los dientes dexandolos como diente de sierra y esto tenian por galanteria, y hazian este officio viejas, limandolos con ciertas piedras y agua."—LANDA, op. cit., p. 182. Similarly filed teeth have been discovered at Copan and in caves at Loltun. See Joyce, Mexican Archæology, p. 294.

though placed under the most unfavorable conditions, having been in direct contact with the damp earth, are in an excellent state of preservation, far better, indeed, than even the best preserved of those in the other mounds where the conditions are decidedly more favorable. The skeletons of children are practically never found in the other mounds, as the bones have long since disappeared completely, while here we find the bones of a child under 12 years of age in a fairly good state of preservation. There are a number of these sepulchral ridges at Santa Rita, many of them hardly distinguishable from the surrounding soil; they are all seemingly of much more recent date than the other mounds, and are probably the work of Maya Indian tribes who flourished long after the conquest.

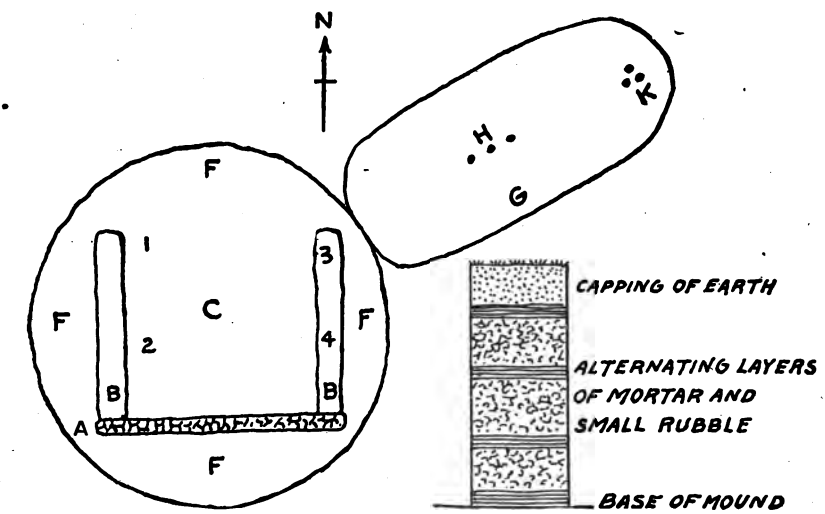


FIG. 22.—Diagram of Mound No. 6.

MOUND NO. 6

Mound No. 6 was situated near the southwestern boundary of Santa Rita. The mound was nearly circular, with flattened top, 25 yards in diameter, and 10 feet high at its highest point. Toward the southern side of the mound was unearthed a wall (fig. 22, A) 2 feet thick, 2 feet high, and about 15 yards long. From the ends of the wall roughly made masses of limestone and mortar (fig. 22, BB) passed almost through the mound, inclosing a rectangular space, C. The wall was evidently the remains of an older structure, as it was built of well-squared stones and had been broken down at both the top and sides. The masses of masonry (fig. 22, BB) were 5 to 6 feet thick by about 5 feet high. The space C was filled with alternating layers of mortar and small rubble. The spaces (fig. 22, FFF) at the periphery of the mound were filled with rubble mixed with earth.

METATES AND BRAZOS FROM MOUND NO. 6

a. SMALL POTTERY SEAL

b. BOWL IN WHICH SKULL WAS FOUND

c. SKULL

Length, 15.9 cm.; breadth, 15.9 cm.; height, 13.3 cm.; circumference, 47.9 cm.

The rubble, wherever found in the mound, contained large quantities of potsherds, together with flint chips and a few hammerstones. In the spaces FFF were found numerous fragments of metates and brazos, with one unbroken specimen of each (pl. 12). At the points marked (fig. 22, 1, 2, 3, 4) four human interments were encountered at a depth of 12 to 18 inches beneath the surface. The bodies had been buried lying on the back, fully extended. The bones were in a very poor state of preservation, and with each interment were found a few flint chips, hammerstones, broken spearheads, obsidian knives, and one or two small, very roughly made, round cooking pots. The whole mound was removed to provide material for the Corozal streets. On reaching the ground level it was found that a series of trenches had been cut through the earth beneath, to the bedrock, and filled in with small rubble. Figure 23 gives a plan of these trenches, which are in the form of two parallelograms, measuring 9 yards by 6 yards, joined by a third of approximately the same area. The trenches varied from 3 to 4 feet in breadth and from 1½ to 3½ feet in depth, according to the thickness of the layer of earth over the bedrock. The space marked figure 23, A, contained remains of at least 30 interments; some of these were in small semicircular excavations made in the surrounding earth from the sides of the trenches; these are shown at figure 23, D; others were made in holes dug in the earth at various points within the space A. The bodies buried in the excavations at the sides of the trenches seem to have been crowded in, in a variety of positions, in order to accommodate themselves to the size and shape of the cavity. Most of those in the space A had been buried head downward, the skulls resting in some cases in earthenware bowls, with the back bent, legs flexed, and knees drawn up against the chin. Nearly all these bones were decayed and friable, and could not be removed without crumbling away. The only exception was the burial marked figure 23, D′, from which the upper part of the skull was recovered almost entire, though the facial bones and lower jaw were lost. This skull (pl. 13, *c*) rested in the bowl shown in plate 13, *b*, a handsome piece of pottery, standing upon four nearly globular hollow legs, with slits in their sides, and within them small spheres of clay which rattled when the bowl was moved. It is painted yellow and red throughout, and is nicely polished. A great number of objects were found accompanying the bones in the space A. These included flint ax heads and spearheads, flint scrapers, and hammerstones, two obsidian spearheads, and fragments of obsidian knives, shell and clay beads, and a small cylindrical pottery seal about 3 inches in length, with a geometrical device in low relief stamped upon it (pl. 13, *a*). The bones of the peccary, curassow, snake, and of some variety of fish were also found, together with the shells of

conches, cockles, snails, and hooties (a large variety of freshwater snail still eaten by the natives). A block of crystalline limestone, 18 inches long by 8 inches high and 12 inches broad, was found in one of the semicircular pits leading from the trench at the upper border of space A, figure 23. It was traversed by 14 longitudinal grooves on its upper surface, which was slightly concave; each groove was ½ inch broad by ¼ inch deep, quite smooth, and nearly straight. The stone had seemingly been used as a hone for giving an edge to small stone implements.

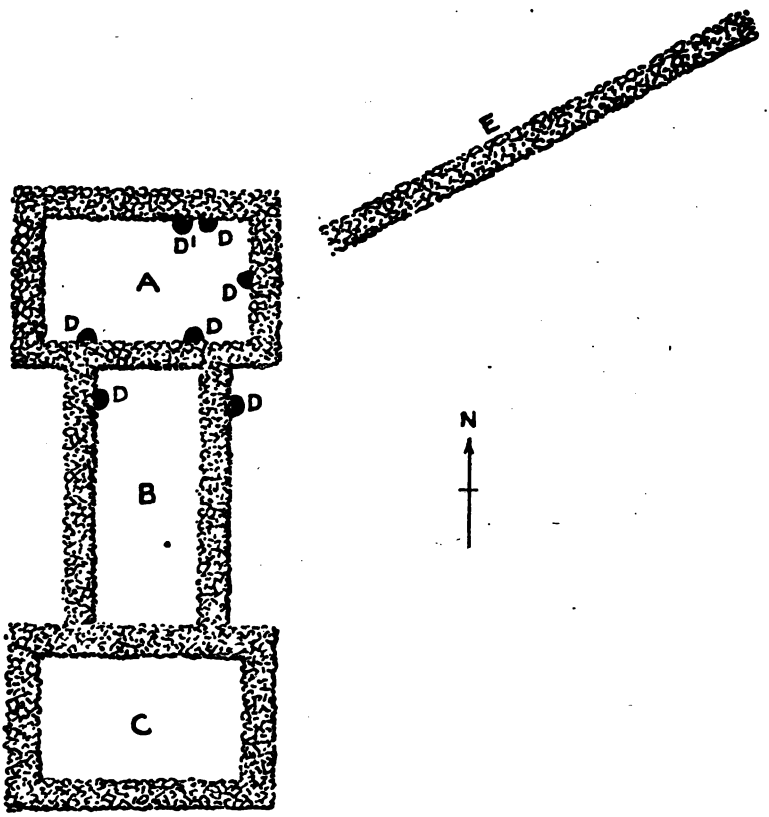


FIG. 23.—Diagram of trenches in Mound No. 6.

Extending out toward the northeast from the main mound was a low structure (fig. 22, G) 4 feet in height and 25 yards in length. It was composed throughout of layers of clay, rubble, and limestone dust, not very clearly separated. Three separate interments were found beneath this mound near its center (fig. 22, H), the bones in all of which were very much decayed. From the first of these the shallow bowl (fig. 24, *a*), 7½ inches in diameter by 1½ inches deep, together with the vase *d*, 8 inches in height, were taken. The vase was of rather fine pottery, painted a uniform dark red throughout. Nothing else was found with this interment.

From the second grave were taken a bowl exactly similar to that shown in figure 24, *a*, two flat dishes 12 inches in diameter (fig. 24, *e*), and a small polished bone ring 1 inch in length, seemingly a section from one of the larger long bones of some large animal. The vessel *g*, 6 inches in diameter, was also found with this burial; it is made of fine pottery, painted red, and possesses a curious upturned spout, which bends inward toward the rim of the pot to such an extent that it would be impossible either to drink or pour out the contents therefrom. These curious pots, usually with the spout parallel to the perpendicular axis of the vessel, are quite common

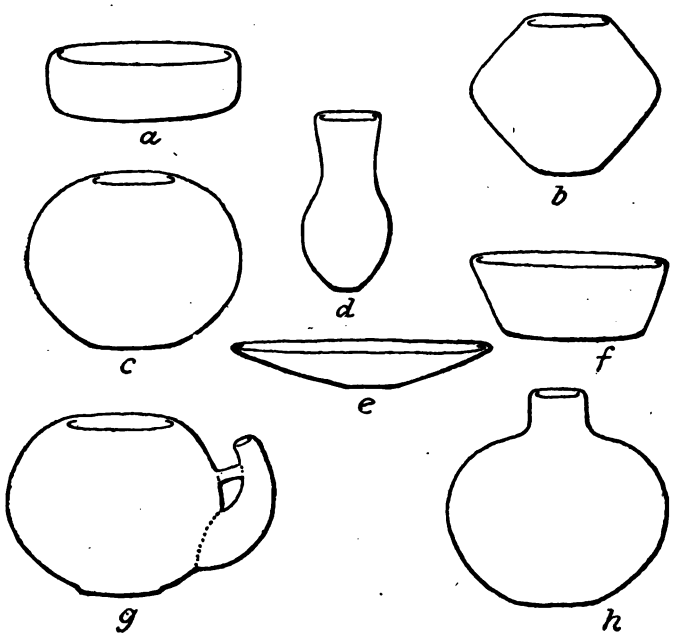
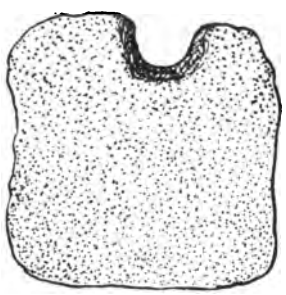


FIG. 24.—Bowls, vases, and dishes found in Mound No. 6.

among Maya pottery from this district; they were supposed to have been used as chocolate pots, but drinking from them must have been a feat of legerdemain.

From the third grave came two bowls, both almost spherical, the one 12 inches, the other 6 inches, in diameter (fig. 24, *c*). At the point K, near the end of the mound G (fig. 22), three interments were found, very close together, on the ground level; these had evidently been contained at one time in a small oval cist, built of rough blocks of limestone, which had now completely caved in. With the bones were found the vases shown in figure 24, *b*, *f*, *h*, of the same red-painted pottery as was found elsewhere in the mound. Six well-made bone awls, or lance heads, each about 6 inches in length,

together with a heap of the shells of some large bivalve, one of which was polished and perforated for use as an ornament, were also found among these bones. The stones of which the cist had been built, the bones, and the objects accompanying them were so inextricably mixed that it was impossible to tell which objects belonged to each set of bones. Passing through the long axis of this mound was a rubble-filled trench, 3 feet in breadth, dug down to the bedrock, exactly similar in structure to those already described. No interments were found at the sides of this trench, which is shown in figure 23, E.



Flag of limestone shown in D, fig. 25.

Mound No. 6 A

Mound No. 6 A, another of the group of mounds adjoining the southwesterly boundary of Santa Rita, measured 18 feet by 15 feet at the base, by about 3 feet high at the highest point, and was built throughout of earth, large blocks of limestone, and limestone dust. The mound rested directly on the limestone formation. Into this, near the center of the mound, an oval excavation had been made (see C C, fig.

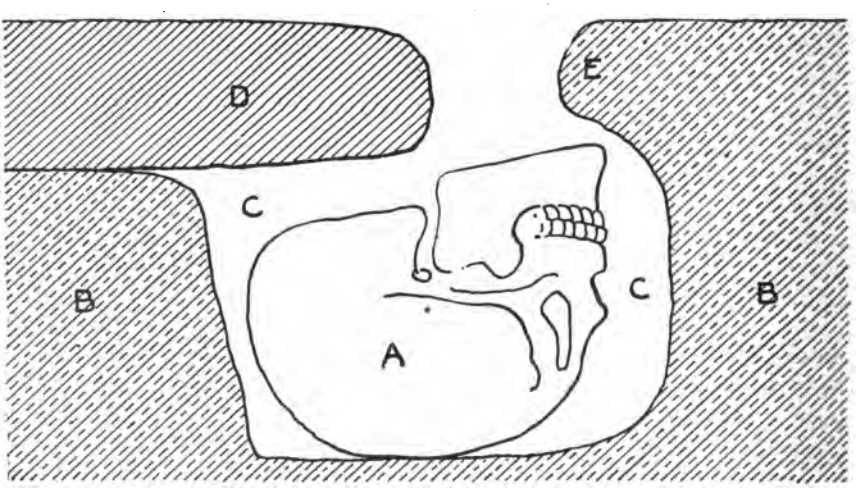


FIG. 25.—*A*, skull; *B*, limestone formation; *C*, excavation; *D*, grooved flag in situ; *E*, projecting lip.

25) about 10 inches in depth, and in size just large enough to contain the skull which was found within it. A ledgelike projection was left at one edge of the excavation (see E, fig. 25), and just beneath this rested the point of the jaw. A large heavy flag of limestone (see D, fig. 25), from which a semicircular segment had been chipped, was placed above the excavation opposite the lip, so that the groove in the stone inclosed the neck and clamped the skull

tightly down in the little hole which had been made to receive it. On each side of the skull the femora were found, in a nearly vertical position, condyles downward, and between the femora many fragments of other bones were brought to light, including the tibiæ, arm bones, and vertebræ. Resting upon the limestone flag which covered the skull lay a large, rudely made chert hammerstone, 8 inches long by 4 inches broad, which had probably been used in chipping out the semicircular groove to fit the neck. Near the center of this mound, 2 feet below the surface, two very neatly made flint hammerstones were found. The dimensions of this skull were: Length, 14.22 cm.; breadth, 16.76 cm.; circumference, 48.26 cm.; cephalic index, 123. The base of the skull was so much damaged that the height could not be ascertained. The extreme breadth in comparison with the length, giving it a remarkably brachicephalic appearance, was possibly, to some extent at least, the result of post-mortem compression from before backward within the little cavity which contained it.

Mound No. 7

Mound No. 7, situated very close to No. 6 A, was oval in shape, measuring 30 yards by 10 yards at the base, and 8 feet high along the summit. It was built throughout of large blocks of limestone, limestone dust, and a small proportion of earth. It rested upon the natural limestone formation, into which, near the western end of the mound, a shallow oval pit 18 inches in length by 10 inches in depth had been dug. In this was found a somewhat imperfect skull, resting with the foramen magnum uppermost. The other bones, which were distributed irregularly around the hole, were in a poor state of preservation. Upon one side of the skull lay a small shallow bowl, with four hollow legs, each containing a pellet of dry clay loose in its interior; and upon the other side a small three-legged vase. Both of these were of rather crude pottery, painted dark-red throughout and polished. Two other excavations similar to this were found in the limestone beneath this mound, each containing fragments of a skull in a very advanced state of decay, surrounded by fragments of the other bones. No additional pottery or other objects were found beside them. The two mounds last described are the only ones in which this peculiar method of interment appears to have been employed. The procedure seems to have been somewhat as follows: First, the earth capping was removed from the limestone rock, over the area to be occupied by the mound; next, shallow oval pits were dug in the rock into which the skulls were wedged; each body was bent, and the thighs were flexed on the abdomen, so that the knees touched the rock on each side of the head; finally, the mound was built up of limestone dust, earth, and blocks of limestone around the body, in this position.

MOUND NO. 8

Mound No. 8, situated very close to Mound No. 7, was roughly circular, 36 feet in diameter and 4 feet high on its flattened top. It was built throughout of earth, limestone dust, and blocks of limestone. Projecting from the western edge of the mound was a large, roughly hewn block of limestone, 3 feet by 4 feet, and 8 inches in thickness. Running through the center of the mound from east to west were two parallel rows of limestone flags, 2 feet apart, projecting 18 inches from the limestone rock upon which the mound was erected and in which they were embedded. Near the center of the mound, between the rows of limestone flags and resting on the earth, covered only with limestone dust, was found a single interment. The skull is shown in plate 14. Its dimensions are: Length, 17.01 cm.; breadth, 16.51 cm.; height, 10.68 cm.; circumference, 51.30 cm.; cephalic index, 97. The body, which was stretched at full length, had probably been laid face downward, as the bones of the forearms, also shown in plate 14, were found beneath the skull. With the

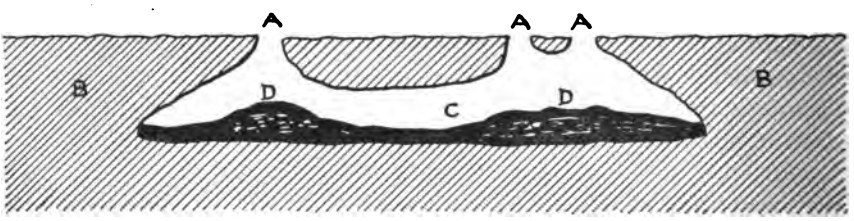


FIG. 26.—Circular openings leading into natural cavity.

bones of the hands were found four copper rings, considerably oxidized; three were plain narrow bands, while the fourth was a broad flat band decorated with incised double volutes. Some of the phalanges were colored a bright-greenish tinge, from contact with the rings. Three of the rings and three phalanges are shown in plate 14. These bones were all in a remarkably good state of preservation, probably owing to the fact that they were completely surrounded by fine limestone dust.

Within a few yards of this mound was the opening of a small *chultun*, with steps leading to the interior. It was oval in shape, 15 feet long, and at one time had been covered with plaster, which had nearly all peeled off. The floor was covered with earth, of which there was a pyramidal heap under the opening. Nothing was found in this *chultun* except great quantities of fragments of large, rough earthenware water vessels.

About 300 yards to the east of the mound three circular openings were found (see AAA, fig. 26) leading into a large irregular natural cavity (see C, fig. 26) formed in the limestone (see BB, fig. 26). Each of

SKULL AND BONES FROM MOUND NO. 8

these openings was about 2 feet in diameter, and close to one of them a circular slab of stone, 6 inches in thickness, and of about the same diameter as the opening, was found, which had probably been used as a cover for the latter. This *chultun*, unlike the first one, was of purely natural formation; the walls, which were rough and irregular, showed no signs of tool marks. The chamber varied in height from 8 to 9 feet beneath the openings, where it was highest, to 2 to 3 feet at the sides. There was a considerable accumulation of earth upon the floor (see DD, fig. 26), which had evidently fallen and been blown in, as it was collected in two heaps beneath the openings. There were no stone steps leading down into this *chultun*, and access must have been gained to the interior by means of wooden ladders, which had long since disappeared. Numbers of potsherds, shells, pieces of charcoal, clay beads, and fragments of flint and obsidian implements were found upon the floor. Several skeletons of small mammals were also found among the earth, but these creatures had probably fallen in after the *chultun* ceased to be used, and had been unable to get out.

At a distance of less than half a mile from the last-mentioned *chultun* another was discovered under somewhat curious circumstances. A large flat mound was completely removed for the sake of the stone and limestone dust which it contained, to be used in repairing the Corozal streets. About the center of the mound, at the ground level, a heavy circular flag of limestone, 2 feet 4 inches in diameter, was brought to light. On removing this it was found to cover a round well-like opening, which expanded below into a small *chultun*, 12 feet long by 9 feet in greatest diameter. The chamber was egg-shaped and showed no signs of having ever been stucco-covered. From the opening a short flight of steps, cut in the rock, led to the bottom of the *chultun*. Nothing was found in this *chultun* with the exception of two small bowls of rather coarse earthenware, painted red and polished; one almost globular in shape, 6 inches in diameter; the other circular, flat-bottomed, 3½ inches in height. The mound which covered this *chultun* appeared to have been one of the commonest kind of burial mounds. At its summit fragments of a rude circular earthenware pot were found, and near its center fragments of human bones, together with three flint hammerstones and two small round vessels, one of light yellow, the other of yellowish-red, pottery.

One of the most remarkable of the *chultuns* found in this area is situated at San Andres, within a mile of the village of Corozal. It was accidentally found by some coolies in digging marl, and as, unfortunately, the entire roof of the larger chamber and a considerable part of that of the smaller had caved in, it was impossible to

discover how it had been entered from outside, as no trace of steps remained. A ground plan of this *chultun* is shown in figure 27. The small chamber, A, is 8 feet long, 7 feet broad, and 5 feet 6 inches high in the center; it is cut out of solid rock. The large chamber (C) is 15 feet in diameter, but as nearly the entire roof has fallen in, it is impossible to estimate its exact height. The chambers are partially separated by a wall (B) built of rough blocks of stone and tough mortar, which has been partly broken down. In the side of the small chamber, opposite the wall, are three oblong shafts (D, D, D, fig. 27) cut into the rock, by the side of the chamber wall, which

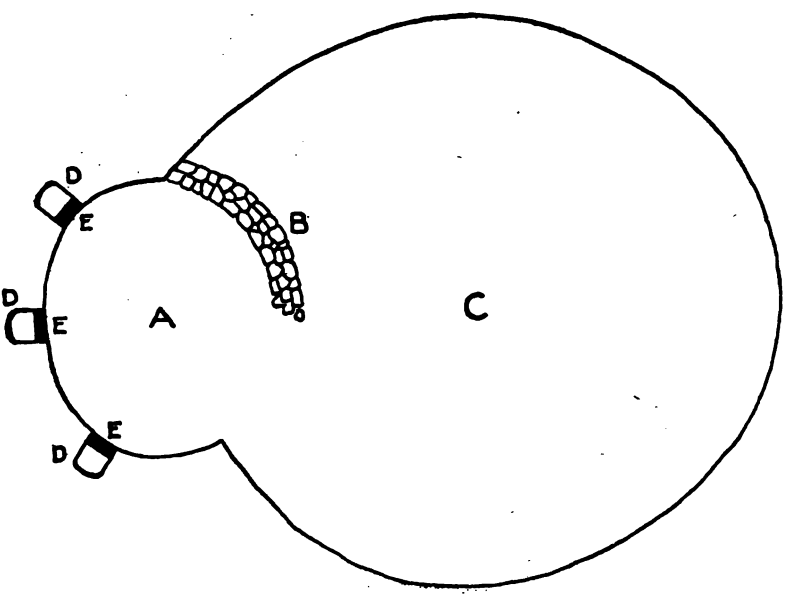


FIG. 27.—Ground plan of chultun.

is here nearly perpendicular. Each of these is about 1 foot in depth by 8 to 9 inches in breadth, and is separated from the chamber by a single row of bricks (E, E, E, fig. 27) mortared together, reaching from the roof to the floor, so that there is no communication between the shafts and the chamber. Each shaft opened originally on the surface of the ground, but the openings had become blocked by vegetable refuse from the surrounding bush. The bricks which fill in one side of each shaft are of two kinds. The first, by far the more numerous, are made of sun-dried clay, yellowish in color, and very friable; they contain considerable powdered marl. They measure 8 by 4 by 2¾ inches. The bricks of the second kind also are made of clay, mixed with many pebbles; they have been fired, are of a reddish color, far harder and tougher than the first variety; they measure 8 by 4 by 2¼ inches. Nothing was found in either chamber except a few potsherds of various kinds.

These underground chambers, or *chultuns*, seem to be fairly common throughout Yucatan. Considerable doubt exists as to the uses to which they were put.[1] It seems probable that those the walls of which were plastered with an impervious cement lining were intended as water receptacles, since they could easily have been filled by drainage from the thatched roofs of buildings in the vicinity, which have long since completely disappeared. Though the southern part of Yucatan, unlike the northern, is fairly well watered, plastered *chultuns* are not infrequently found there, but always situated at considerable distances from a good permanent water supply, as a lagoon or river. The uncemented *chultuns* would not hold water, and had probably been used as storehouses for corn and other provisions. Some of these chambers were undoubtedly used as burial places, as one at Platon, on the Old River,[2] was covered by a burial mound, and itself contained human bones; but it is possible that their use for this purpose may have been secondary only. The San Andres *chultun* is somewhat puzzling, as it was certainly not a reservoir for water, nor were any traces of human burial found within it. It had probably been used as a storehouse for food, though it is difficult to understand the object of the oblong shafts, leading into the open air, found at the side of the smaller chamber, as they must have been quite useless for ventilating purposes, not having any opening into the chamber itself through which the air might circulate.

MOUND NO. 9

Mound No. 9, situated close to the *chultun*, with three openings, was oval in shape with flattened summit, 44 feet in breadth, 66 feet in length, and 14 feet high at its highest point. On removing the summit of the mound to a depth of about 4 feet the floor of a building, with parts of the walls, was exposed. The cap of the mound, covering the ruins of the building, was composed of blocks of marl, clay, rubble, and limestone. The lower part of the mound, upon which the building stood, was constructed of large blocks of limestone mortared together, forming a solid block of masonry. The building was in a very ruinous condition; as much of its ground plan as could be

[1] Tozzer, in commenting on these chultuns at Nakum, says: "There is evidently no close connection, as in Yucatan, between the water supply and these underground rooms. In fact they are frequently found near sites where there is an abundant supply of water throughout the year. In almost no case do we find any drainage into them. They are usually found on ground slightly higher than that of the surrounding country. In this respect they differ from those in Yucatan. Another point against their use as storage for water is shown in the fact that in several the rock from which they are excavated is porous, and the walls do not seem in all cases to have been covered with an impervious layer of plaster. That they were used in some cases for the storage of maize and other foods is possible, as they are generally dry and would be suitable for such a purpose. That some were used for burial places is very probable."—TOZZER, A Preliminary Study of the Prehistoric Ruins of Nakum, Guatemala, p. 191.

[2] Gann: On Exploration of Two Mounds in British Honduras, pp. 430–434; On the Contents of Some Ancient Mounds in Central America, pp. 308–317.

traced is shown in figure 28. The walls, A, A, A, are 3 feet 4 inches in thickness. Such parts as remain standing are built of well-squared stones held together by mortar (see fig. 30). They are covered with stucco inside, which is continuous with the cement flooring of the rooms; outside they were also covered with stucco above the water table (B, figs. 28 and 29) but nearly all of this had been broken away. The water table, which projects 3 inches from the wall, is 12 inches deep; it is built of well-squared stones not covered with stucco, and is continuous below (figs. 29 and 30) with C, a layer of hard cement 18 inches broad, which apparently ran completely round the building, and possibly acted as a drain to carry off the water after heavy tropical showers. The main room was 8 feet in breadth and had probably been about 30 feet in length, with four doors opening into it, two on each side. This was floored with very hard, smooth, polished cement, which even now is in an excellent state of preservation; this flooring is continuous through the doorways with the top of the water table, with which it is on the same level. Nothing was found in excavating this mound, with the exception of a fragment of a conch-shell trumpet, a piece of an obsidian knife, numerous potsherds, and half of a flint paint grinder, with traces of green paint still adherent to it. All of these objects were found on the floor of the main room.

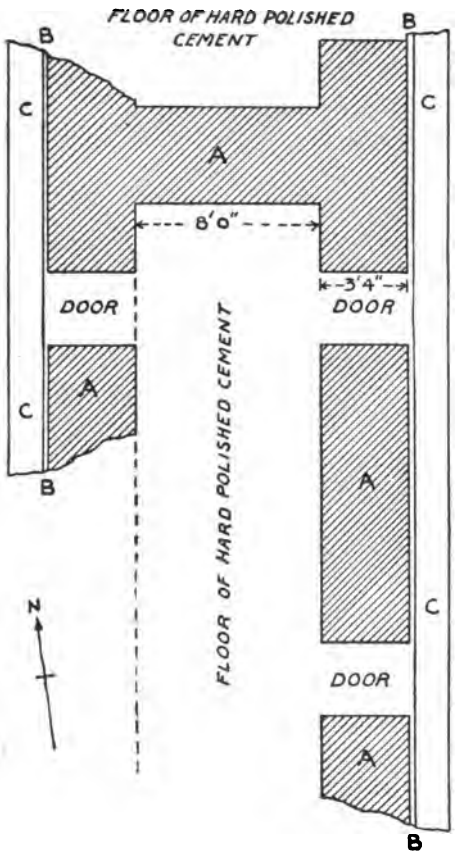


FIG. 28.—Ground plan of Mound No. 9.

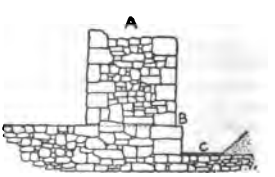


FIG. 29.—Wall construction of Mound No. 9.

Mounds erected over the ruins of buildings are extremely common all through this part of the Maya area; some are very large, covering buildings which had been placed on lofty stone pyramids; some are very small, as when they cover buildings of a single small room, built almost

on the ground level. All the buildings are in ruins, all are raised more or less on stone platforms above the ground level, and all show traces of having been covered with stucco, both internally and externally. In some cases this stucco is very beautifully decorated in colored devices, as in the mound already described at Santa Rita;[1] in others the stucco is molded in various designs and ornaments, which may or may not be colored, as in the mound at Pueblo Nuevo on the Rio Nuevo, presently to be described. Most of these mounds contain nothing except the building which they cover, but some had

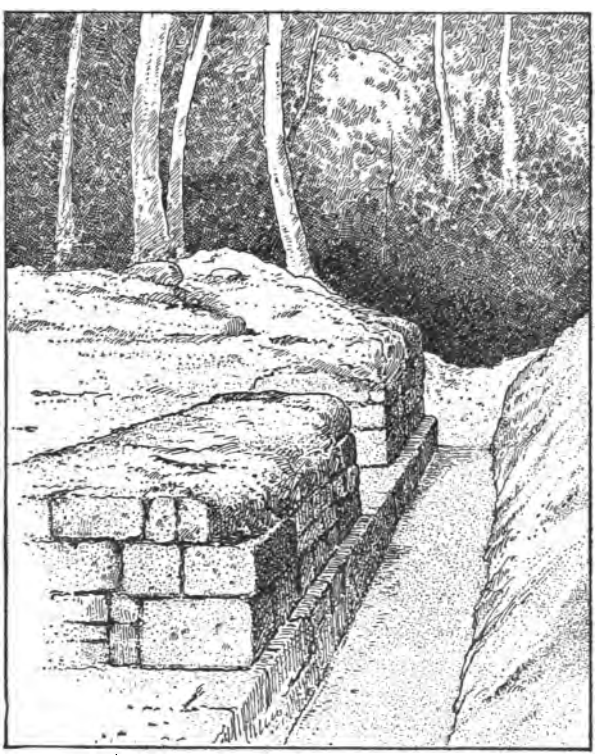


FIG. 30.—Details of Mound No. 9.

been used as burial places, the interments evidently having taken place after the building had been covered in, as they are found irregularly distributed through the loose superstructure which forms the cap of the mound, quite close to the surface.[2]

[1] Gann, Mounds in Northern Honduras, pp. 666–680.

[2] The interments which are found, superficially placed in mounds which cover buildings, were probably of later date, as Landa distinctly states that the owner was buried within his house. "Enterravanlos dentro en sus casas o a las espaldas dellas" (Landa, op cit., p. 196). Moreover, more than one of these superficial interments are found in mounds covering buildings, and, lastly, human remains have been found beneath the floors of ruined houses, where one would naturally expect to find them.

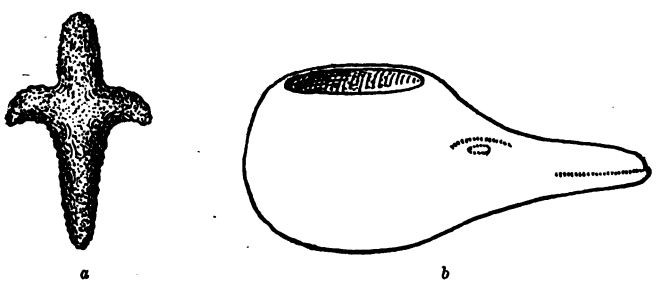
MOUND NO. 10

Vague reports had been in circulation for some years as to the existence of a mound close to the headwaters of the Rio Hondo, where the Indians still practiced to some extent their ancient religion. It was said that the mound contained a stone chamber in which stood on a stone pedestal a life-sized image, painted in various colors, and that around the walls of the chamber were niches in which rested life-sized stone turtles, also painted; furthermore, that the bush Indians of the neighborhood were in the habit of coming to the mound for the purpose of burning incense before the idol.

The mound was found situated quite close to the bank of the Rio Hondo, buried in the bush which covers this part of Yucatan. It was 80 feet in height, 350 feet in circumference, conical in shape, and completely covered by high bush continuous with that of the surrounding forest. After clearing the underbrush from the mound an opening 3 feet square was discovered about 17 feet from the summit of the mound on its northern aspect, the walls of which were faced with cut stone. From this opening a low passage led to a small stone-faced chamber 8 feet high, 6 feet broad, and 10 feet long, the floor of which was composed of earth and lime well beaten down to form a hard, smooth surface. Projecting from the walls were eight small stone brackets, upon which nothing was found. No trace whatever was seen of a painted image or of turtles. The walls and ceiling of the room, especially the latter, were considerably blackened by smoke, possibly caused by burning incense.

Excavation was commenced at once in the floor of the chamber. At a depth of 8 inches the hard floor gave place to soft brown sand, which was continuous to a depth of 2 feet, where several small deposits or pockets of lime were found inclosed within it, each of which contained a number of obsidian knives and small cores. The knives were deeply indented on each side of the base, as if to facilitate hafting. The cores, of which 20 were found, were slender and varied from 1 to 3 inches in length. On digging down through an additional 18 inches of the brown sand a layer of lime was exposed about 18 inches in thickness, filling the entire lumen of the chamber, in which were found irregularly scattered 60 cruciform objects, finely chipped in obsidian, each from 3 to 4 inches in length (fig. 31, *a*). These would have served as either arrowheads or small javelin heads, or possibly were intended for ceremonial purposes only. With them were a single pottery vase and two small triangular javelin heads of obsidian. The vase (fig. 31, *b*) was circular in shape, 6 inches in diameter, with a long piglike face protruding from one side. It was made of dark-brownish pottery, painted red and finely polished externally. It was filled with small mussel-like bivalve shells embedded in lime. A number of these

shells were found also closely adjacent to the vase in the lime which surrounded it. Beneath the layer of lime lay a layer of brown sand, 3 feet thick, in which absolutely nothing was found. Below this appeared another layer of lime, mixed with sand, 4 feet thick, near the bottom of which were found 40 human skulls, neatly disposed in rows. These, when first uncovered, seemed to be in a moderately good state of preservation, but when removed from their bed of lime and sand they crumbled so easily that it was found impossible to preserve them. The skulls were all placed in the same horizontal plane, each one nearly in contact with its neighbor. No other bones were found with them, or in fact in any other part of this mound, with the exception of two small oblong objects of bone, about 2 inches in length, each still bearing traces of paint, which were discovered among the skulls. These skulls would seem to have been either the result of secondary interments or the remains of sacrificial victims whose bodies were either eaten or buried elsewhere. In favor of the first theory is the fact that



a *b*

FIG. 31.—Obsidian object and pottery vase from Mound No. 10.

the Maya did not practice human sacrifice to anything like the same extent that their neighbors, the Aztecs, did, and slaughter involving forty-odd victims must have been practically unknown among them. Furthermore, in one or two instances small shallow stone-lined graves, covered with large slabs of stone, have been found at and around the bases of large mounds, and it seems quite possible that these graves may have held the bodies of distinguished dead until their skulls were in a fit condition to be removed to the mound or until a sufficient number had accumulated to make it worth while opening the chamber for their reception. In favor of the second theory is the fact that, judging by what could be seen of the teeth and lower jaws, all the skulls were of individuals in the prime of life, no jaws of very young or of very old individuals being discovered. Immediately beneath the skulls were unearthed 12 objects of chert fashioned with great care. Seven of these were spearheads, the other five of eccentric form. The spearheads varied in length from 37 cm. (pl. 15, *c*) to 29 cm. (pl. 15, *f*); they were very well made, some from gray, others

from brownish-yellow, chert. The eccentric flints comprised: (a) An animal form, possibly meant to represent a bush rabbit, 30 cm. in length from the forehead to the tip of the tail (pl. 15, *a*); (b) an animal form, evidently meant to represent a turtle or tortoise, 28 cm. in length from the head to the tip of the tail (pl. 15, *g*); (c) a halberd-shaped implement (pl. 15, *b*), exquisitely chipped from light-ocher-colored chert, 44 cm. in its greatest length by 19 cm. in breadth across the widest part of the head. This implement is furnished with two sharp-pointed cutting projections in front, separated by a groove; at the back is a larger triangular sharp projection. The whole implement is well balanced, for use in the hand, by a bulging or thickening of its body between these three projections; (d) an implement chipped from yellowish chert, 44 cm. in length, serrated on each side, pointed at one end and rounded at the other (pl. 15, *d*); (e) a crescentic implement, chipped from yellowish chert, 26 cm. in its greatest length, 17½ cm. across the widest part of the crescent. From the convexity of the crescent project three spines, the central one long and serrated, the lateral ones merely pointed knobs. This object is more crudely chipped and less symmetrical than any of the others (pl. 15, *e*).

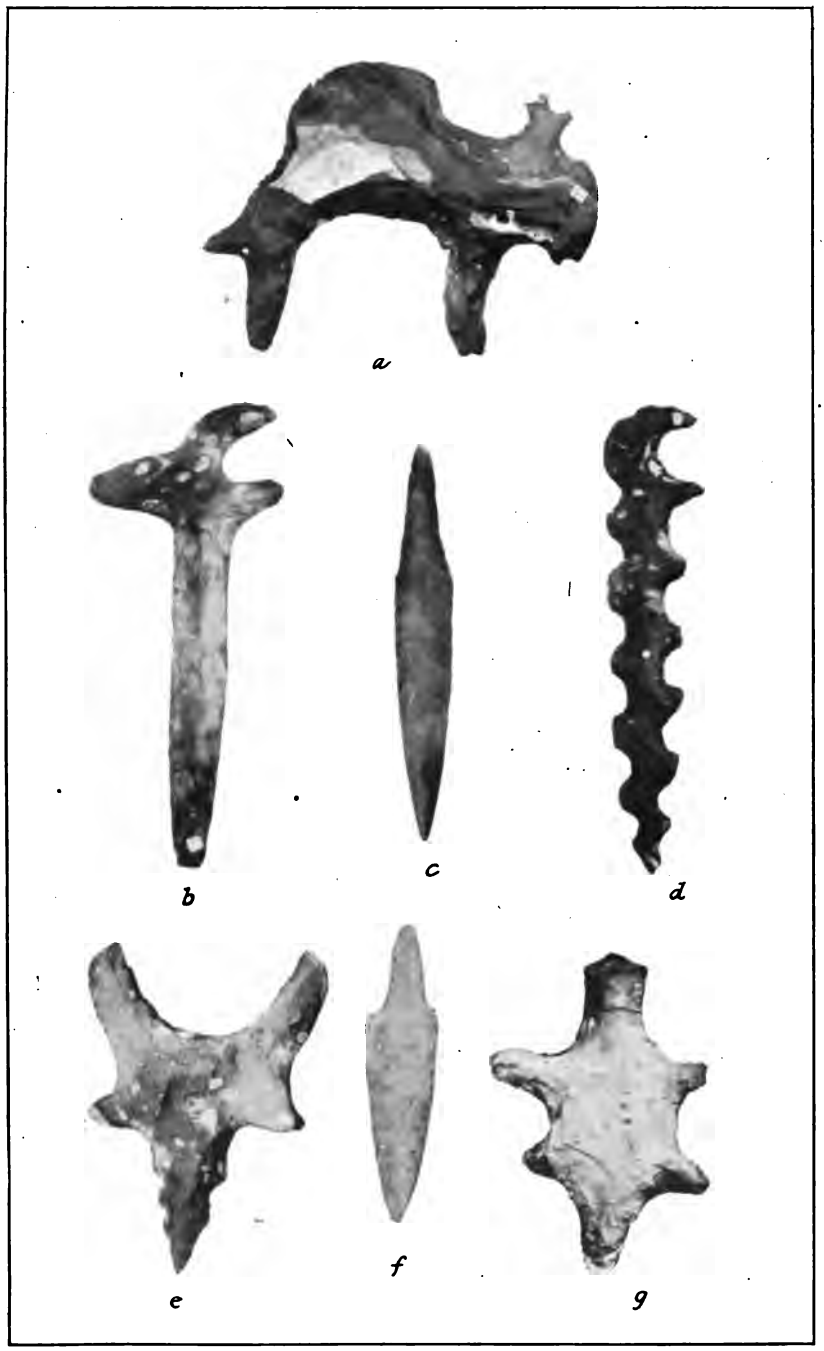
These eccentrically shaped flint and chert objects seem to be limited in their distribution to that part of the Maya area comprised in southern Yucatan, eastern Guatemala, and most of the colony of British Honduras. The earliest known specimens are probably those now preserved in the Salisbury Museum, England, which have been thus described:

> Among the numerous stone weapons and implements which have been discovered, and serve to illustrate the primitive arts of the New World, three remarkable relics from the Bay of Honduras, in South America, are deserving of special attention. They were found about the year 1794, with other examples, in a cave between two and three miles inland. * * * One is a serrated weapon, pointed at both ends, measuring 16½ inches long. [This object is almost exactly similar to plate 15, *d*, except that the latter is pointed at one end only, the opposite one being rounded.] Another is in the form of a crescent, with projecting points. It measures 17 inches in its greatest length, and it is conjectured may have served as a weapon of parade, like the state partisan or halbert of later times. The third, which is imperfect, has probably resembled the previous one in general form.[1]

The second of these implements very closely resembles that shown in plate 15, *e*, the Salisbury specimen being somewhat larger, more symmetrical, and more carefully chipped.

About 3 feet beneath these flint objects, embedded in the sand which filled this part of the chamber, were discovered 20 cruciform obsidian arrowheads or javelin heads, similar to that shown in figure 31, *a;* 40 small obsidian cores; 2 obsidian arrowheads, of the shape shown in figure 32; 12 well-made obsidian knives, grooved on each

[1] From Wilson, Daniel, Prehistoric Man, vol. I, pp. 214-15, Cambridge and London, 1862; quoted by Stevens, Edward T., in Flint Chips.



STONE OBJECTS FROM MOUND NO. 10

side of the base, and two crescentic objects chipped from chert, somewhat resembling that seen in plate 15, *e*, but smaller, without projecting spines at the convexity of the crescent, and altogether more crudely and carelessly made.

After the sand and lime had been removed from this chamber to a depth of nearly 30 feet it was found that the walls became continuous with the solid foundation of masonry upon which the mound stood. This was very difficult to penetrate, and so far as was ascertained contained nothing further of interest. The roof of the chamber was next attacked from the summit of the mound. To a depth of nearly 2 feet nothing was found but fine, brown alluvial soil, full of the roots of plants and trees. Beneath this the real structure of the mound began, for not so much as a solitary potsherd or chip of flint was found in the earth on the summit of the mound, indicating clearly that this layer had accumulated since its construction. Beneath the earth layer, to the roof of the chamber, the mound was composed of blocks of limestone of varying size, loose friable mortar, and powdered limestone. In the first 8 feet nothing except a few potsherds was found. At this depth two shallow circular saucers, each 7½ cm. in diameter, were unearthed. These were made of coarse red unpainted pottery, and close to them lay a finely chipped flint object (fig. 33, *a*, *b*). This was rounded at both ends, narrower at the handle than at the base, and markedly convex on its under surface (fig. 33, *a*, *b*). The front part of the under surface was quite smooth and polished, evidently from attrition, while that part of it marked A A bore distinct traces of blue paint. There can be little doubt that this implement was a paint grinder, as a specimen almost exactly similar was found in a mound near Corozal, bearing traces of green paint on the under surface. Fourteen nicely polished reddish stone beads, spherical in shape, together with four smaller beads of a light-green color, and a leaf-shaped spearhead of flint, were found adjacent to the paint grinder. Immediately beneath these was found an object made of what seems to be reddish-brown agate; this is 10 cm. in length, oval in section, 1 cm. in its greatest breadth, tapering off to a blunt point at each end, and finely polished all over. With it were nearly 300 small triangular obsidian objects of the shape shown in figure 34. These vary in length from 1½ to 2½ cm.

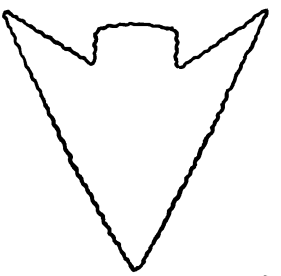


FIG. 32.—Obsidian arrowhead from Mound No. 10.

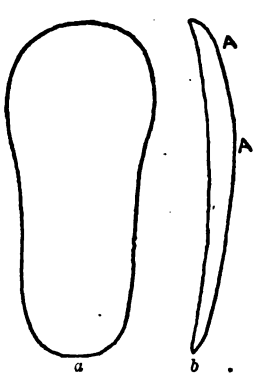


FIG. 33.—Flint object from Mound No. 10.

They are thick at the upper angle, the side subtending this forming a sharp cutting edge. In some of the implements this edge is notched, as if from use. These implements were probably used as scrapers, or small chisels or gouges, for which purposes they would be suitable, either hafted or unhafted. It is possible that they may have been used as teeth for the sword known to the Aztec as *mextatl*, which was also in use among the Maya at the time of the conquest. This weapon was constructed by setting a number of sharp obsidian splinters in deep lateral grooves, cut in a long piece of hard wood, which were filled with liquid resin in order to prevent the splinters from shifting from their positions.

In the Stann Creek district of British Honduras, on the banks of the Sittec River, at a distance of approximately 15 miles from its mouth, there exists an extensive clearing in the bush known as "Kendal Estate." The soil here is remarkably fertile and well suited for the cultivation of every kind of tropical vegetable product. As has been pointed out before, wherever throughout northern Central America one finds patches of exceptionally rich soil, there, on clearing the bush, will be found in greater or less numbers the mounds erected by the former inhabitants, together with the indestructible refuse usually associated with former village sites, as fragments of pottery, flint and obsidian chips, broken and rejected implements and weapons, shells of various edible shellfish, clay beads, net sinkers, malacates, broken rubbing stones, etc. The converse of this holds true to some extent, as one of the guides relied on by the modern degenerate Maya Indian in his annual selection of land for a milpa, or corn plantation, is the number of mounds which he finds upon it. Indeed this remarkable index as to the degree of fertility of the soil appears to be almost the only useful heritage transmitted to him by his courageous and comparatively highly civilized ancestors.

FIG. 34.—Obsidian object from Mound No. 10.

MOUND NO. 11

Mound No. 11, at Kendal, occupies a conspicuous position upon the summit of a small natural elevation, situated on the left bank of the river close to its margin. It is 60 feet long, 40 feet broad, and 20 feet high, its long diameter running due east and west. An excavation was made into the north slope of the mound, which exposed a three-walled chamber, 8 feet in length by 4 feet 8 inches in width. There was no wall on the south side. The north wall, owing to the outer slope of the mound trending over it, was only 1 foot in height; the east and west walls were each 4 feet high. All three walls were about 18 inches thick. The chamber was packed with water-worn

d

a *b*

c

a. MODEL OF JADEITE BIVALVE SHELL. b. LIGHT-GREEN JADEITE MASK. c. AX HEAD, OR CELT. d. TERRA-COTTA CYLINDER

bowlders and earth, among which nothing was found but scattered patches of charcoal, with a few small red pots, so rotten and friable from long exposure to the damp that it was found impossible to remove them. Had there ever been bones in the chamber, as seems probable, they must have completely disintegrated long before from contact with the damp clay. The floor was composed of flags of shale. About the center of the west wall a recess was discovered 2 feet wide by 1½ feet high. This was half filled with earth, in which the following objects were found:

(1) The model of half a bivalve shell in light-green jadeite, very well executed and polished both inside and out (pl. 16, *a*). On its outer surface, following the contour of the outer edge, are seven glyphs, the chief component of each of which is a grotesque human face.[1]

(2) A small mask of light-green jadeite, well polished on both surfaces, measuring approximately 7 cm. in both diameters (pl. 16, *b*). Inscribed on the forehead in shallow lines are the glyphs shown in figure 35, somewhat enlarged from the actual size. Around the edge of the lower half of the mask are seven minute perforations, while running across the back of the forehead from ear to ear is a larger hole, evidently used for suspension. No doubt this mask was used as a breast ornament, similar to those portrayed in the codices and on the monoliths, the small holes being intended for the suspension of the alligator-head beads found with the mask, which again may have been connected along their outward-pointing snouts by the cylindrical beads.

FIG. 35.—Inscription on mask, plate 16, *b*.

(3) An ax head, or celt, of light-green stone, finely polished throughout (pl. 16, *c*), 21 cm. in length by 6.5 cm. in breadth at the cutting edge. One side is engraved with hieroglyphs done in shallow lines, much less carefully and neatly than those on the shell. The lower two-thirds of the engraved side have evidently been subjected to considerable attrition, as the surface of the stone, especially along the lower third of the ax, has been so worn away as to render the lines almost undecipherable. This inscription, somewhat smaller than the original, is shown in figure 36. With these engraved objects were a number of cylindrical beads, pierced in their long diameter, made of very pretty mottled light and dark green jade, well polished. They varied from 1.2 to 1.6 cm. in length, and the substance of the stone from which they were made was distinctly crystalline

[1] This shell has already been reproduced in the Sixteenth Annual Report of the Bureau of American Ethnology, pl. LXIX.

on fracture. With them were a number of small alligator heads, made of similar stone and about the same size as the beads, pierced at the base of the skull for suspension, six celts of green and chocolate-colored stone, all finely polished, varying from 9 to 18 cm. in length, and a circular disk of iron pyrites 8 cm. in diameter by 5 mm. in thickness. This object was milled round the edges like a coin and perforated in the center. With it was the broken half of a similar ornament; probably both of these had been used as ear ornaments. Trenches were dug through this mound in all directions, but nothing further was found therein.

MOUND NO. 12

Mound No. 12, at Kendal, was situated close to the last-described mound. Its flattened summit measured 28 feet by 20 feet; the average height was approximately 15 feet. The mound extended east and west, and on its eastern slope large slate slabs were seen protruding from the surface. On excavating round these they were found to be part of a chamber measuring 7 feet by 3 feet; the south wall had

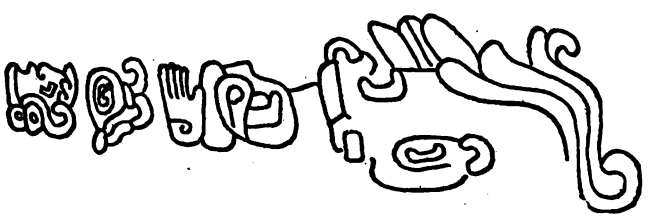


FIG. 36.—Inscription on ax head, plate 16, *c*.

caved in and the roof slabs also had been somewhat displaced. The chamber was filled with earth, on removing which the following objects were found upon the floor slabs: (1) Three nearly spherical red pots, averaging 6 inches in diameter; they were so rotten from the effect of moisture that it was impossible to remove them. (2) Two small, rather crudely executed human faces cut in mottled jadeite, and finely polished, with which were three green jadeite beads. (3) A small quantity of greenish powder. (4) Four small chisels of polished greenstone, varying from 2 to 4 cm. in length. (5) One chisel made of very soft gray stone, which had been covered externally with greenish paint somewhat resembling enamel, and very closely simulating the genuine greenstone chisels with which it was placed, except that it was much lighter in weight. Instances of counterfeit implements and ornaments buried with the dead have been found more than once throughout this area.

Excavations were made along the flattened top of this mound, and about 16 feet to the westward of the first one a second grave was discovered. This was in a much better state of preservation than

the first, as all the walls and the roof were in situ. It was composed throughout of large flat irregular slabs of slate, averaging about 2 inches in thickness. It measured 8 feet by 2 feet by 2 feet in height. The chamber was filled with earth, and the roof was not more than 6 or 8 inches below the surface of the mound. The following objects were found in this chamber, all resting upon the slate slabs which formed the floor. At the north end five nearly globular red earthenware pots, of rather coarse manufacture, each containing a stone celt, were found. These pots had been packed closely together, in earth, and over them a large slab of slate had been placed as if to protect them; this, however, it failed to do, as the pots were so saturated with moisture that it was found possible to remove only one unbroken. The celts averaged 6 inches in length; all were well made and polished; four were of greenstone, one of a bluish-gray stone. Close to the pots were found a small jadeite face and three greenstone beads or pendants. Nearer the center of the floor of the chamber were found two small cubical objects of light greenstone 1 cm. in diameter, very closely resembling dice, with a geometrical device inscribed in rather deep lines upon two of their opposed surfaces; these might have been seals or stamps, or they might have been used in playing some game. With them were a small solid cylinder, of light greenstone, finely polished for suspension, 12 small obsidian knives, seemingly quite new, as they showed no signs of notching from use, and six convolvulus-shaped ornaments of light greenstone, finely polished, which had probably been used as ear plugs. Close to the last lay a hollow cylinder of extremely hard terra cotta 7 cm. in height, inscribed externally with a geometrical device in low relief (pl. 16, *d*). This object was undoubtedly a cylindrical seal or stamp for use on a handle; similar specimens are not uncommon in the south of British Honduras and in Guatemala, though in the north of the colony and in Yucatan they are of much less frequent occurrence. Small patches of charcoal and of green powder were found in several places scattered over the floor of this chamber. Nothing further was found in this mound, which was composed throughout of earth and water-worn bowlders.

Several more mounds were excavated at Kendal, but nothing was found in them. They were all composed of earth and large, water-worn bowlders, the former greatly predominating. Close to many of the mounds a deep excavation in the surface is to be seen, from which the material to construct the mound was evidently taken. These mounds form a decided contrast to those in the north of British Honduras and in southern Yucatan; they are lower, flatter, more diffuse and irregular in outline, with the line of demarcation between the base of the mound and the surrounding soil very poorly defined. The northern mounds are more clearly defined, with steeper

sides, smaller summits, and base lines easily distinguishable. The reason for this difference is to be sought in the material from which the mounds were constructed, which in the south is clay, with a small admixture of river bowlders, both of which are easily washed down by the torrential tropical rains of the district. Year by year the mound becomes flatter and less well defined, till at length most of these mounds will be hardly distinguishable from the surrounding earth. In the north, on the contrary, the mounds are built of large blocks of limestone, with only a small admixture of earth and limestone dust. In many cases the blocks are mortared together, and in nearly all cases layers of cement are alternated with layers of stone. The whole forms a practically solid block of masonry, capable of withstanding for all time the less heavy rainfall of this part of British Honduras and Yucatan. About the center of a triangular space, bounded at each angle by a small mound, situated close to the mound last described, was found a piece of water-worn rock measuring 4 feet 10 inches in length, which had evidently been carried up from the river bed a quarter of a mile away. Three or four inches of it appeared above the soil. Beneath the rock extended a layer of water-worn river stones to a depth of 2 feet. Among these were found numerous fragments of pottery and patches of charcoal. On the western side of the rock, close to its edge, and buried 10 inches beneath the surface, were found three rather well-chipped flint spearheads, the largest of which was 25 cm. in length (fig. 37, *a*, *b*, *c*); these were placed erect in the earth, points upward, and close to them lay the small, eccentrically shaped object seen in figure 38, *b*, very well chipped from dark-blue flint, measuring 7½ cm. in length. A few feet to the north of these objects, buried at about the same depth and quite close to the rock, were found the serrated flint spearhead shown in figure 38, *c*, 27 cm. in length, together with the eccentrically shaped object seen in figure 38, *a*, 28 cm. in length; both of these were placed perpendicularly, the spearhead point upward.

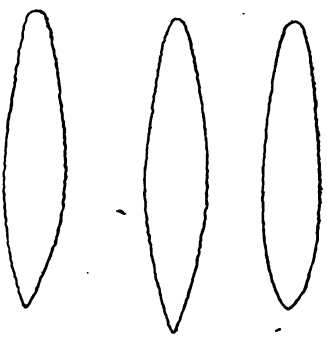


FIG. 37.—Flint spearheads.

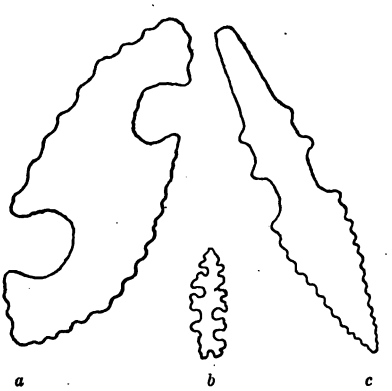


FIG. 38.—Flint objects.

About 1½ miles from the village of Benque Viejo, in the Western District, is the only considerable aboriginal building in British Hon-

duras, still in a fairly good state of preservation. This is a two-story temple standing upon a small natural elevation. Each story contains 12 small rooms, three on the north side and three on the south side, each of which has a narrower room in the rear. The central rooms are 27 feet in length, the side rooms 17 feet 6 inches. The breadth of the smaller rooms is 4 feet 6 inches; the dividing walls are 3 feet thick. All the rooms in the lower story are filled in with large blocks of stone, loosely held together with a small amount of mortar. This seems to have been a favorite device among the Maya architects, its object probably having been to give greater strength and stability to the new upper story erected upon a building of older date. All the rooms are roofed with the triangular so-called "American arch." The height of the rooms is 5 feet 10 inches to the top of the wall, and 5 feet 10 inches from the top of the wall to the apex of the arch. All the rooms had been covered with stucco, and upon the wall of one of the inner chambers completely covered over with green mold the devices shown in figure 39 were found, rudely scratched upon the stucco. In both the upper and the lower part of the drawing are what may be taken as crude representations of "Cimi," the God of Death, probably, like the "grafiti" of Rome and Pompeii, scratched on the wall after the abandonment of the temple by its original builders.[1] Whoever executed the drawing must have had some knowledge, however crude, of Maya art and mythology, as the Cimi head shown in the lower and the conventional feather ornaments in the upper part of figure 39 are unmistakably of Maya origin. To the north of this building lies a considerable group of ruins. Among these three large pyramidal

FIG. 39.—Devices scratched on stucco in aboriginal building.

[1] Similar grafiti were discovered on the wall of a temple at Nakum, in Guatemala. See Tozzer, Preliminary Study of the Prehistoric Ruins of Nakum, Guatemala, p. 160, fig. 48a.

structures are conspicuous, which no doubt at one time carried small temples upon their summits, some remains of which are still to be seen. At the base of these pyramids stand three small plain stelæ, quite unornamented. Upon the summit of one of these mounds the eccentrically shaped implements shown in figures 40 and 44 were found. Of these, figure 40, *a*, *b*, and figure 44, *m*, *n*, *o*, *p*, are of obsidian, while the rest are of flint. Sixty-four of these objects were found in all, at depths varying from one or two inches to a foot beneath the surface; all were within an area of about 2 square yards. Some of the objects, especially the obsidians, were chipped out with great care and accuracy; others were merely flint flakes with a few shallow indentations chipped in their sides. On the south side of the largest of the pyramids stood a large sculptured stela, the upper part of which had been broken off and lay close to the lower part, which was still embedded in cement. The sculptured part of this stela measured 10 feet 2 inches in length by 4 feet 3 inches in breadth, and about 16 inches in thickness. The sculpture, which is in low relief, represents a captive, or sacrificial victim, prone on his face and knees, while above him rises the figure of the priest or warrior, with elaborately decorated feather headdress, holding in his extended right hand a small figure of the manikin god. The limestone from which the stela is cut has been very much defaced by the weather, and the finer

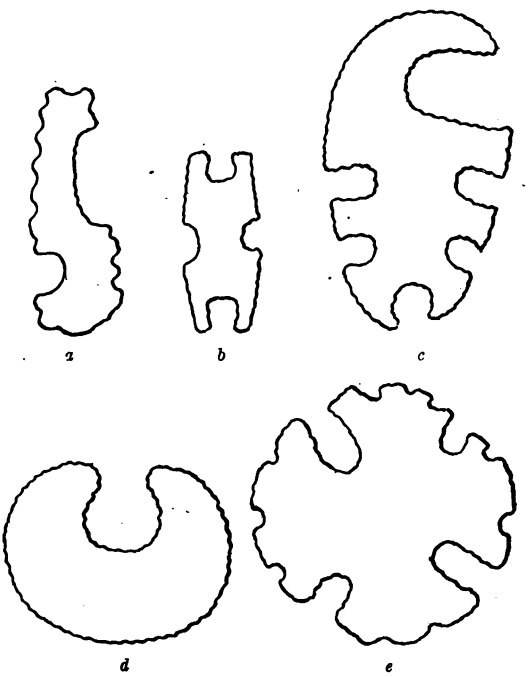


FIG. 40.—Eccentrically shaped implements found at summit of mound.

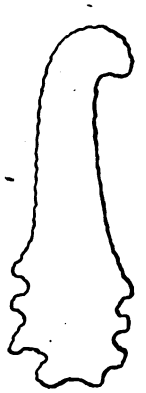


FIG. 41.—Flint object found at base of stela.

FIG. 42.—Flint object found at base of stela.

details of the sculpture can not now be deciphered. The back and sides are plain and unsculptured. Close to this monolith lay a small stone altar, 2 feet 6 inches by 2 feet 4 inches; on its upper surface is represented the figure of a skeleton with head bent over the extended right arm, while the left is held in to the side, the elbow joint at right angles. In front of the skeleton is a double row of hieroglyphs, each row containing 7 glyphs, most of which are in a fairly good state of preservation. An excavation was made round the part of the monolith still standing. It was found to be surrounded by a solid foundation of blocks of limestone, held together by cement,

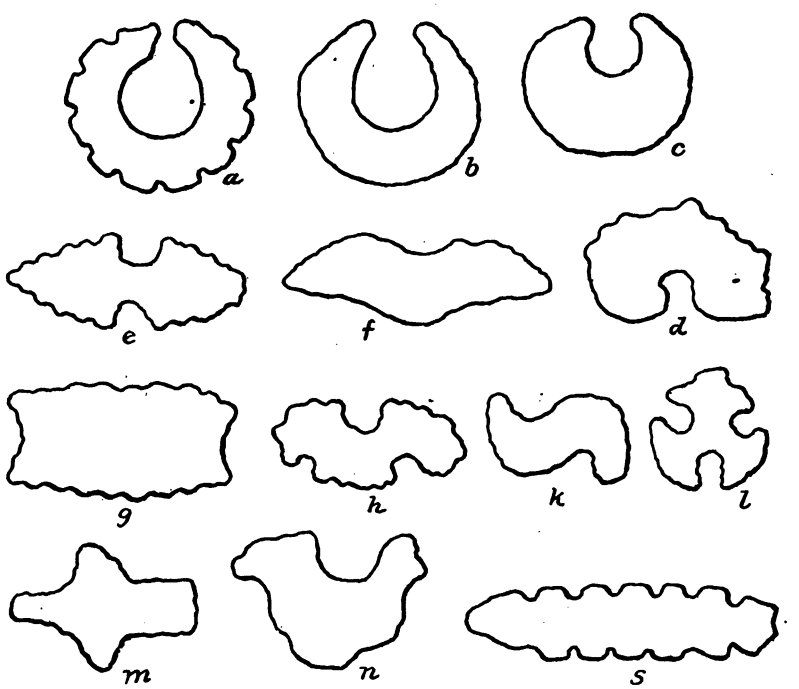


FIG. 43.—Flints found in ruins at Naranjo.

among which were found, near the base of the stela, and actually in contact with it, the two eccentrically shaped flint objects shown in figures 41 and 42. In excavating a stela at the ruins of Naranjo, Republic of Guatemala, Teobert Maler found the flint illustrated in figure 43, *a*, and in clearing another stela at the same ruins 24 similar flints were found (fig. 43, *b–s*). Of these he says:

During the excavation of this "starfish stela" quite a collection of very interesting flint ornaments, 24 in number, came to light. Among them were crescents, such as are seen as ear ornaments on certain stelæ of Yāxhá and Tikal, several curved or even S-shaped pieces, which, perhaps, were used as nose ornaments, a serrated lance and a serrated plate, a piece in the shape of a cross, and one composed of three leaves, a double lance, single lances, etc.

We may assume that near many stelæ, as well as in the interior or on the exterior of temples, in addition to incense burners and sacrificial bowls, there were placed certain death's-head masks or other figures of perishable material tricked out with ornaments, feathers, and locks of hair, which have long since mouldered away, leaving behind only those of indestructible stone. For elsewhere, in the vicinity of stelæ, objects of flint and obsidian are found in addition to pottery sherds.[1]

It will be seen that figure 43, *a*, from Naranjo is practically identical with figure 44, *h*, from Benque Viejo, as is figure 43, *c*, from Naranjo with figure 40, *d*, from Benque Viejo, and figure 43, *k*, from Naranjo with figure 44, *k*, from Benque Viejo, while

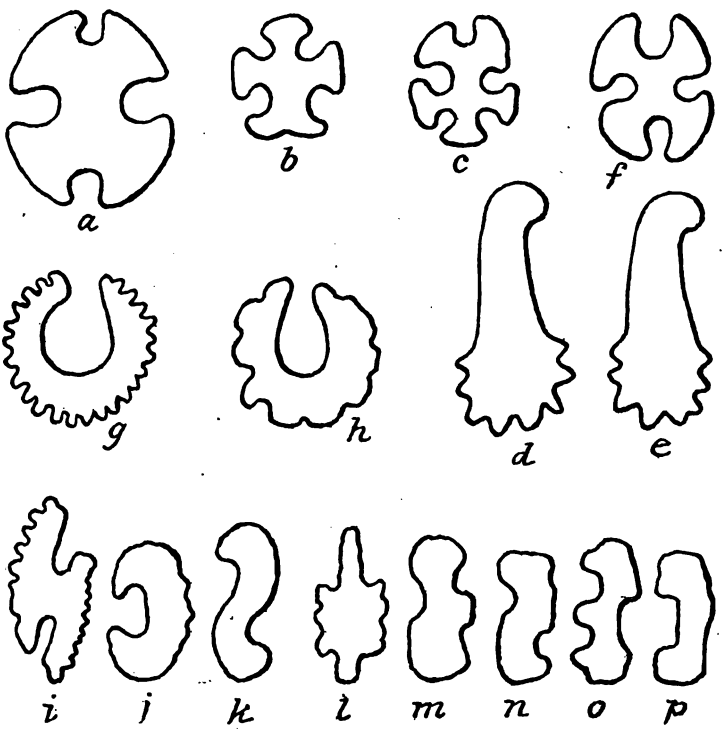


FIG. 44.—Objects from Benque Viejo.

the objects shown in figure 43, *h*, *l*, *m*, respectively, from Naranjo very closely resemble those seen in figure 44, *o*, *a*, *l*, from Benque Viejo.

Close to Succots, which is an extension of the village of Benque Viejo, a small mound was opened by Dr. Davis some years ago, within which were found the objects illustrated in figure 45. These are all of obsidian and of very eccentric and irregular shapes. The object shown in figure 45, *c*, closely resembles that shown in figure 43, *c*, from Naranjo, and that in figure 40, *d*, from Benque Viejo,

[1] Maler, Explorations in the Department of Peten, Guatemala, pp. 100-101.

and still more closely figure 44, *p*, from Benque Viejo, both being made of obsidian.

MOUND NO. 13

Close to Corozal, in the northern district of British Honduras, the sea in its gradual encroachment along the coast had partially washed away a small mound. On the beach, by the side of the mound, were found a few fragments of human long bones, a small triangular arrowhead or javelin head of black flint, a number of potsherds of coarse, thick, reddish pottery, and two small obsidian knives. These had evidently been washed out of the mound by the sea. The remaining part of the mound was dug down. It was found to be 18 feet in diameter, less than 4 feet high at its highest point, and built throughout of water-worn stones, sand, and earth. Near the center and on the ground level were found human vertebræ and parts of a skull, probably belonging with the leg bones found on the

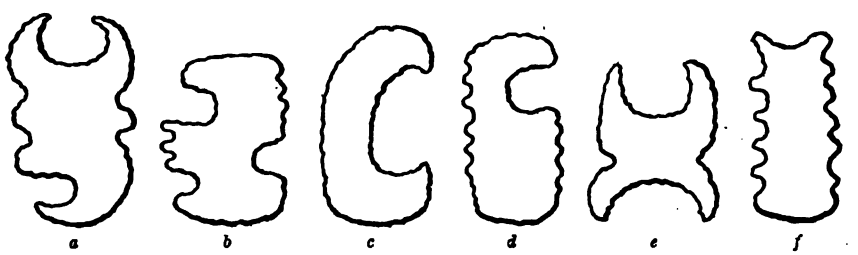


FIG. 45.—Obsidian objects found in a mound near Benque Viejo.

beach. Close to these were found a small three-legged earthenware bead vase, containing two pottery and one small polished greenstone bead, together with one eccentrically shaped flint object. This is probably meant to represent a "quash," or picote, with bushy tail coiled over his back. It is rather neatly chipped from dark-yellow flint. It measures nearly 3 inches from the curve of the tail to the tip of the forepaw.

MOUND NO. 14

The next mound in which an eccentrically shaped flint was discovered is a very large one situated far away from any settlement, at the headwaters of the Rio Hondo, in northern British Honduras. The stone implements found in it lay near the summit, about a couple of feet beneath the surface. They were discovered accidentally by an Indian (from whom they were purchased) while digging out a *halib*, or gibnut, from its hole, and consisted of: (a) A spindle-shaped stone brazo 12 inches long by 9¾ inches in circumference, finely polished from grinding corn on a metate. (b) A chipped flint brazo, 7½ inches long by 10½ inches in circumference, polished on one

side only. Flint brazos are exceedingly rare, as the rough surface necessary for corn grinding must have been difficult to produce on so refractory a material. (c) Eight stone ax heads, varying from 3½ to 8½ inches in length. (d) A dark greenstone ax head, 9½ inches in length, with two shallow notches, one on each side of a shoulder situated 3 inches from the base, probably intended to afford greater facility in hafting the implement. (e) Two well-chipped flint spearheads, one 10¼, the other 7½, inches in length. (f) An oblong block of flint 6½ inches in length and 6½ inches in circumference. This had probably been used as a hammerstone, since it exhibits well-defined percussion marks at each extremity. (g) A rather roughly chipped stellate disk of flint, 10 inches in diameter, with 13 sharp-pointed triangular rays or spines, each about 2 inches in length, at equal intervals around its periphery. Near the center of this object is a natural hole 3¾ inches in diameter.

FIG. 46.—Flint object from Seven Hills.

The upper part of this mound consisted of earth and blocks of limestone; the lower part was not excavated. The implements were found lying close together in a cache, loose in the soil. Numerous rough potsherds were found, but there was no trace of human interment discovered.

In the southern part of British Honduras, not far from Punta Gorda, is a group of small natural elevations, known as Seven Hills. Upon the summit of the highest of these, some years ago, the object illustrated in figure 46 was found. This somewhat resembles a horseshoe with two long bars, each tapering off to a point, projecting from either side. It is very neatly chipped from grayish flint. Its extreme length is 16 inches. This implement was found just beneath the surface, covered only by a few inches of soil. At a later date a number of trenches were dug on the summit of this mound, but nothing except potsherds of various kinds with flint and obsidian chips came to light.

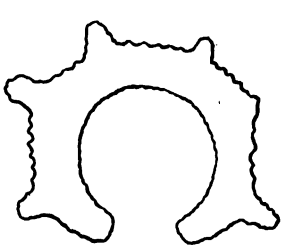


FIG. 47.—Horseshoe-shaped flint object found near San Antonio.

In figure 47 is seen one of the finest of these eccentrically shaped flints ever found in this part of the Maya area. It is horseshoe-shaped, chipped to a sharp edge all round, and has six sharp spines projecting from the outer periphery (one of which has been broken off, as shown in the figure), with shallow indentations between them. The implement, which is 35 cm. in its greatest diameter, is made of nearly black flint, covered with a beautiful creamy white porcelain-like patina. It

was found by an Indian in the neighborhood of San Antonio, on the Rio Hondo, which here forms the boundary line between Mexico and British Honduras. He was idly scratching on the top of a small mound, buried in the bush, with his machete, when a few inches below the surface he came upon this very remarkable flint. Unfortunately, he took no pains to locate the mound, and as the bush in this neighborhood is literally covered with mounds in all directions, he has never been able to find this particular one again.

The implement shown in figure 48 was dredged up from the River Thames, near London, at a spot where foreign-going ships were in the habit of dumping their ballast. There can be little doubt that it came originally from British Honduras, as flint implements of such large size and of this peculiar type are not found outside the Maya area. This object, as may be seen, is a crude representation of the human form; it is 9½ inches in length and is neatly chipped. A closely similar anthropomorphic specimen is preserved in the Northesk collection, a cast of which may be seen in the British Museum.

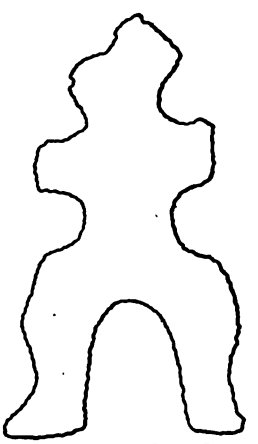


FIG. 48.—Figure from River Thames, near London.

It is extremely difficult to form any satisfactory theory as to the use of these eccentrically shaped flints which will cover all the instances in which they have been found. Teobert Maler, judging by the small specimens, closely packed, which he found at Naranjo, considers that they may have been used as ornaments upon death's-head masks, placed near stelæ and temples, the more perishable parts of which have disappeared. This theory could hardly apply to the immense specimens from the Douglas, Orange Walk, and Seven Hills mounds, some of which are, moreover, obviously intended as weapons, and not as ornaments. Stevens, the author of "Flint Chips," with only the three large specimens found in a cave inland from the Bay of Honduras to judge from, considers that they may have served as "weapons of parade, like the state partisan or halbert of later times;" it is perfectly obvious, however, that the zoomorphic forms from Corozal and Douglas, and the small specimens from Benque Viejo, Naranjo, Kendal, and Santa Rita, could not have been intended for this purpose. Finding small, beautifully chipped crescents, crosses, and rings of obsidian and varicolored flints, as have been discovered at Benque Viejo and Succots, one would be inclined to think that they were intended as earrings, gorgets, and breast ornaments, especially as one sees such forms frequently recurring in the ornaments worn by figures on the stelæ in the neighborhood. Finding the huge flints pictured in plate 15, *b*, *d*, especially when

associated, as they were, with the large flint spearheads illustrated in plate 15, *c*, *f*, the conclusion that they were intended as weapons would be almost irresistible.

The number of these objects found at each of the 11 sites which have been described varies from 1 to 64. On 5 of the 11 occasions they were undoubtedly associated with human interments; in 4 of the remaining 6 they were found lying, superficially placed, on the summits of mounds, which for various reasons were not thoroughly excavated, and may or may not have been sepulchral in function; in the two remaining finds the flints were placed closely adjacent to sculptured stelæ, and these again may have been used to mark the grave of some priest or cacique, though they more frequently marked the lapse of certain time periods. The commonest form assumed by these objects is the crescent or some variant of it. Of the 11 sites excavated, this form was found in no fewer than 8. The crescent is in some cases quite plain, in some indented or spiked along the convexity, and is in one instance furnished with long spines on each side.

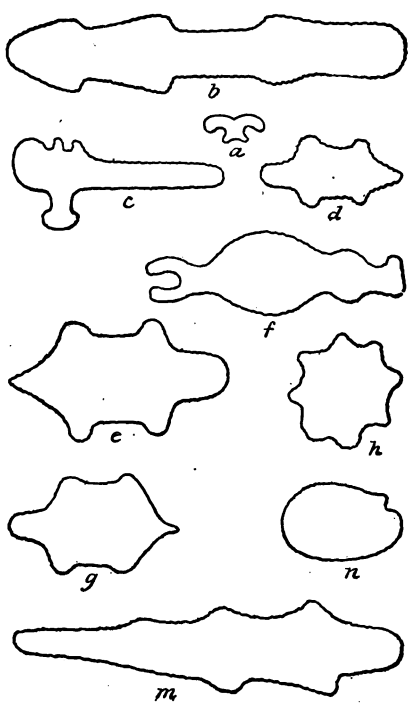


FIG. 49.—Flint objects from Tennessee.

In every instance (except that of the chambered mound at Douglas) where these implements were found in mounds they were placed quite superficially at the summit of the mound; indeed at Benque Viejo, Seven Hills, and Santa Rita it seems probable that they had not been buried originally at all, but merely placed upon the summit of the mound and in course of time became covered with a layer of humus from decaying vegetation in the vicinity.

Similar flint objects have been found in other parts of the world, notably at Brionio in Italy and in Stuart, Smith, and Humphrey Counties, Tennessee. In figure 49, *b–n*, are shown somewhat rough outline sketches of the Tennessee objects, and in figure 50, *a–p*, are represented a selection of the most important objects found at Brionio, now in the collection of the late Professor Giglioli at Florence. The Tennessee objects are to be seen at Washington. The latter are small when compared with the largest of the Maya

specimens, but are neatly chipped, whereas the Brionio objects are very crudely blocked out, mostly from black flint.

It will be observed that figure 49, *c*, *d*, *g*, from Tennessee, shows specimens almost identical with figure 50, *p*, from Brionio, and with the turtle, pictured in plate 15, *g*, from the Douglas chambered mound; again the spiked crescents, figure 50, *b*, *c*, *n*, from Brionio, closely resemble the very much larger spiked crescent illustrated in plate 15, *e*, from the Douglas chambered mound, and still more closely the spiked crescent figured in "Flint Chips" (from Wilson, Prehistoric Man, op. cit., p. 214). Though these objects are not found in Central America outside the Maya area, the Aztec were sufficiently expert in the art of flint and obsidian chipping to have produced them had they wished. In figure 49, *a*, is seen the outline of a type of labret worn by the Aztecs, chipped out of both flint and obsidian, which compares favorably in workmanship with any of the objects from the Maya area.

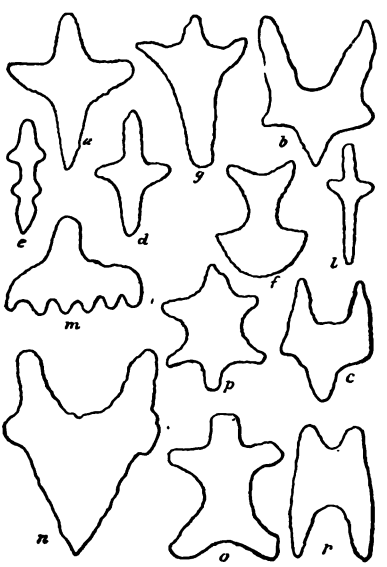


FIG. 50.—Flint objects from Italy.

In reviewing the evidence it would appear that these eccentrically shaped objects were not employed either as implements or as weapons, most of them being utterly unsuited in both size and shape for such purposes; moreover, none of them show any signs of wear or use. Neither were they used as ornaments, as many of them are too large and heavy, while the more roughly chipped specimens would be quite unadapted for such a purpose. Judging by the fact that 5 at least of the 11 separate finds were associated with human burials, it seems probable that these objects were purely ceremonial in use; that they were most frequently, if not invariably, buried with the dead, either on top of the sepulchral mound, in close association with the corpse, or by the side of a memorial stela; and that they were manufactured and used solely for this purpose

MOUND NO. 15

Mound No. 15 was situated on the south bank of the Rio Hondo, about 5 miles from its mouth, near the village of Santa Helena. This was a conical mound 25 feet in height and 120 feet in circumference at the base. Excavation was begun at the summit of the mound, which was somewhat flattened. For the first foot the soil

consisted of light-brown earth, which contained nothing of interest. For the next 3½ feet there were large blocks of limestone, the interstices between which were filled with limestone dust and débris. In these were found large quantities of potsherds, some well painted and polished, together with part of the inferior maxilla of a medium-sized carnivore, probably a puma. At a depth of 3½ feet a number of stone flags, each nearly 5 feet in length and from 4 to 6 inches in thickness, were exposed; on removing these a small chamber appeared, of which the flags formed the roof. The walls of the chamber, or cist, were built of squared stones mortared together; it was 6 feet long, 6 feet high, and 4 feet broad; the floor was of light-brown, very fine river sand. On carefully removing the sand the following objects were brought to light at depths varying from 3 feet below the surface of the sand to the bottom of the chamber: (a) A small round, cup-shaped vase, shown in figure 51, painted bright yellow and finely polished. It is 10 cm. high by 8½ cm. in its greatest diameter. On its outer surface are two grotesque monkey-like figures, the outline of one of which is shown in figure 52, *a*. (b) A small thin bowl of the shape shown in figure 52, *e*, painted yellow throughout, well polished, and ornamented exteriorly with geometrical devices in red and black. (c) A somewhat larger bowl than the next preceding, of the shape seen in figure 52, *f*. The geometrical ornamentation on the outer surface is executed in low relief, and was afterwards painted over. (d) A large circular plaque painted yellow throughout, 42 cm. in diameter. This plaque had been polished but shows considerable signs of hard usage before burial. (e) A plaque-like vessel, 9 cm. in height, with the design represented in figure 52, *d*, of a human face separated from a dragon's head by the Maya numeral 7, repeated around the outer surface of its rim. (f) A shallow plaque, 36 cm. in diameter, painted yellow throughout, and

FIG. 51.—Small cup-shaped vase from Mound No. 15.

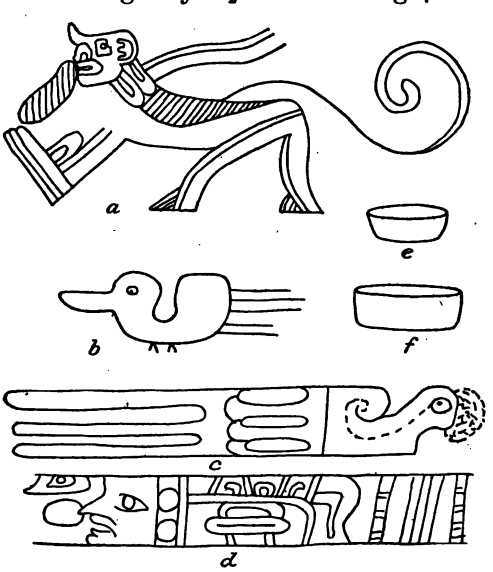


FIG. 52.—Objects from Mound No. 15.

PAINTED BASIN AND COVER FROM MOUND NO. 16

polished; on the inner surface of the rim are repeated twice, outlined in black lines, the bird and the curious mythological animal seen in figure 52, *b*, *c*. (g) A basin-shaped vessel, painted a deep reddish-brown and finely polished throughout, with a very attractive and intricate device of interlacing diamond-shaped figures around the inside of the rim. (h) A vessel closely similar to the preceding, but smaller and not so well polished. It was broken into a number of pieces when found. (i) A small round pot, with flaring rim, of common red ware, showing no attempt at decoration. (j) Scattered throughout the sand, in the midst of these pots, were found 35 very small, flat, circular disks or beads, averaging about one-twelfth inch in thickness. Some were of greenstone, others of a reddish-yellow stone mottled with white. All were well polished.

On removing the sand to a depth of 12 feet the bottom of the chamber was reached. The floor, which was composed of hard mortar, measured 4 by 3 feet, as the chamber was somewhat funnel-shaped, narrowing as it descended. On the bottom of the chamber were found a number of small oyster and cockle shells, with fragments of human bones. Among these was an inferior maxilla in fairly good state of preservation; from the facts that the tooth sockets had disappeared, that there was considerable atrophy along the alveolar processes and widening of the angle between the horizontal and vertical sections of the bone, it had probably belonged to a person of advanced age.

Mound No. 16

Mound No. 16 was situated about 2 miles due north of the last-described mound, close to the north bank of the Rio Hondo, within the territory of Quintana Roo. It was discovered by an Indian, who had cut a piece of virgin bush with the object of making a milpa. The mound was 35 feet in height by 250 feet in circumference at the base; in shape it resembled a truncated cone, the flattened summit of which measured 30 feet in one direction by 6 feet in the other. The mound was composed throughout of rough blocks of limestone, the interstices of which were filled in with limestone dust and an unusually large quantity of light-brown earth. Excavation was commenced at the top of the mound; for the first 6 feet nothing except a few potsherds was found. Scattered through the next 2 feet of the mound the following objects were brought to light; these were mingled indiscriminately with the limestone blocks of which the mound was built, quite unprotected by cyst or chamber: (a) A basin-shaped vessel 20 cm. in diameter, 10 cm. in height (pl. 17), covered by a round conical lid with a semicircular handle. Both basin and cover are painted black and polished, inside

and out. Upon the outer surface of the vase and the upper surface of the lid are incised in low relief a series of pictographs, identical upon both. From the nature of the design and the fact that the vase contained a number of fragments of human bones, it seems probable that it was intended for a cinerary urn. The design is of considerable interest and worthy of detailed consideration. The most prominent object upon both the lid and the vase itself is a naked human figure in a recumbent position, with the arms flexed over the chest and abdomen and the knees and thighs semiflexed. The ornaments worn consist of an elaborate feather-decorated headdress, a labret, or nose ornament (it is somewhat difficult to determine which), and large bead anklets and wristlets. Below the head, on the body of the vase, is the conventionalized representation of a bird (fig. 53) with extended drooping wings, and a rectangular object occupying the position of the beak. On the lid, probably from lack of room, this bird is represented only by the rectangular object, beneath which is seen the conventionalized serpent's head, represented only by the upper jaw, from which project the head and hand of a human being, whom it is in the act of swallowing. This monster, with a human head projecting from its mouth, is frequently represented in mounds in this area, usually in the form of a clay figurine.

FIG. 53.—Conventionalized representation of bird on vessel shown in plate 17.

The next figure is probably intended to represent Quetzalcoatl, the Cuculcan of the Maya, and God B of the Codices. It is the shrunken bearded face of an old man, with a single tooth in the lower jaw, very prominent nose, and a bird's head (probably that of the owl) in the headdress. These are all well-recognized characteristics of this god. At the back part of the headdress of the god, and connected with it, is a human face. Immediately above the head of Cuculcan is depicted a fish, with a flower-like object in front of its mouth (fig. 54), which is probably connected with this god, who is frequently associated with objects connoting water, vegetation, and fertility, as fish, flowers, water plants, leaves, and shells.

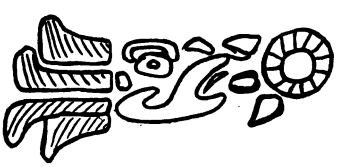
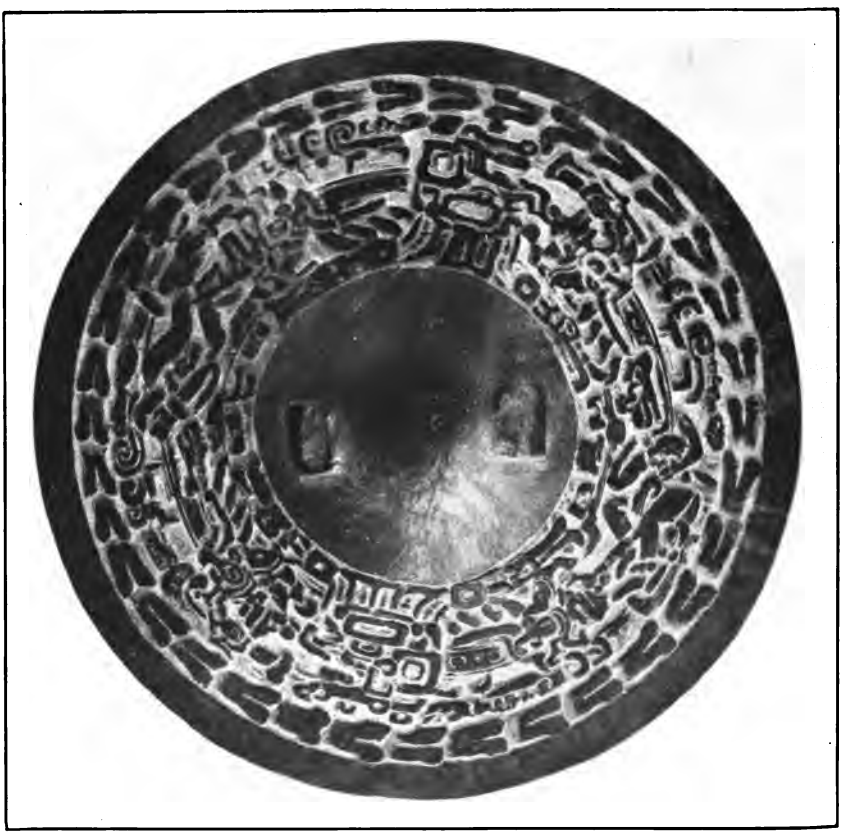


FIG. 54.—Decoration on vessel shown in plate 17.

The next figure probably represents Schellhas's God K of the Codices. This god possesses an elaborate foliated nose, and is usually closely associated with God B, as he is in the present instance; indeed Brinton and Fewkes regard him as being merely a special manifestation of the latter god, while Spinden is of the opinion that his face is derived from that of the serpent so constantly associated with God B.[1] The lower jaw of the god seems to consist of a dry bone. Imme-

[1] See Spinden, Maya Art, p. 64.

a



b

POTTERY FROM MOUND NO. 16

diately behind God K is repeated the design of the serpent swallowing a human head, above which is a striated bar, whose sole purpose seemingly is to decorate a vacant space. Above this again is a bar with feathers or leaves projecting from it, which may possibly be connected with the headdress of God B, and at the top is repeated the figure of the fish, with the circular object in front of its mouth. Next

FIG. 55.—Perforated beads found in Mound No. 16.

to these is again seen the head of the god Cuculcan, after which the whole series recommences with the prone naked human figure. (b) A vessel exactly similar in size, color, and shape to the one last described (pl. 18, *a*). The outer surface is decorated by four curious monkey-like creatures, sculptured in low relief, separated from each other by ovate spaces inclosed in double parallel lines and filled with cross-hatching. Above and below is a border of frets, also executed in low relief. The faces of these monkeys are represented by a simple oval, no attempt having been made to depict any of the features. The hands are furnished with huge clawlike fingers, and the tails, which are of great length, are curled over the back. The cover of this vessel (pl. 18, *a*) is circular, somewhat funnel-shaped, 23 cm. in diameter. Upon its outer surface is executed, in low relief, a monkey almost exactly similar to those which appear on the outer surface of the vase, except that it is somewhat larger and is seen in front view, not in profile. The face of the monkey is carefully molded in high relief to form the handle of the lid, while between his hands he grasps an ovate object identical with those on the vase. (c) The lid of a vessel corresponding exactly to the lid of the vessel first described. The pot to which it belonged could not be found (pl. 18, *b*). (d) A pair of cylindrical vases, each standing upon three short, hollow, oval legs. Both are

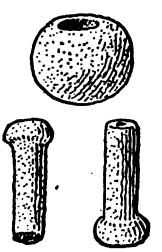
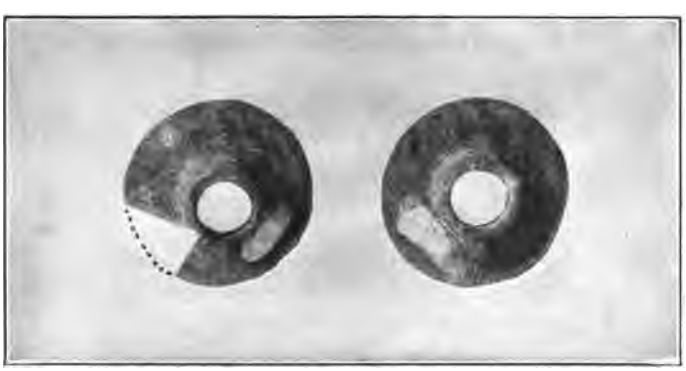


FIG. 56.—Jadeite beads found in Mound No. 16.

made of extremely thin, brittle pottery painted a dirty yellow and polished throughout, with no ornament except a broad red stripe, which passes obliquely around the whole of the outer surface of each vase. (e) Two shallow circular plaques, painted reddish-brown, and polished throughout, with a geometrical device in thin black lines around the inner surface of the rim of each. (f) A quantity of bones, probably those of a *halib* or gibnut, and of a wild turkey. These were found under a large block of rough limestone. (g) A number of

a



b

FIG. 57.—*a*. Circular shell disks from Mound No. 16. *b*. Greenstone ear plugs from Mound No. 17.

univalve shells, each about 1 inch in length, perforated at the apex in two places, as if for suspension in the form of a necklace or ornamental border.[1] With these shells was found half of a large cockle-like bivalve, painted red throughout, and perforated, possibly for use as a gorget. (h) Thirteen large, round, perforated beads (fig. 55). Some of these are reddish in color, and show traces of polishing. With these were the three jadeite beads pictured in figure 56; two of these

[1] See *Memoirs of the Peabody Museum*, vol. II, No. 1, Researches in the Valley of the Usumatsintla, where on several illustrations rows of similar shells are seen decorating the edges of the garments of the persons represented.

are cylindrical, with a knob at one end, while the third is nearly spherical; all are finely polished; they are made of light and dark-green mottled jadeite. (i) A single small oyster shell, with a great number of cockle shells. (j) Two circular disks of shell, represented in figure 57, *a*, exhibiting the front and back view. The central part is of a deep reddish color, and is well polished. Each disk is 5 cm. in diameter and is perforated at the center. They were probably used as ear ornaments. Excavations were made in this mound to the ground level, but no additional objects were found in it.

MOUND NO. 17

Mound No. 17 was situated within a mile of the mound last described, on high ground, about 1½ miles from the Rio Hondo, from which it is separated by a belt of swamp. It was conical in shape, about 40 feet high, nearly 90 yards in circumference, and was built throughout of large blocks of limestone, the interstices being filled with a friable mortar, made seemingly from limestone dust, earth, and sand mixed together. Near the summit was an irregular opening, about 4 feet across, which led into a small stone-faced chamber, 15 feet long, 5 feet broad, and 6 feet high. The opening had been made by the falling in of one of the flags which formed the roof of the chamber; this was found within the chamber with a pile of débris. The floor was composed of large flat flags, on removing one of which an aperture was made which led into a second chamber, of exactly the same size as the first, and immediately beneath it. The floor of this was covered to a depth of about 12 inches with a layer of soft brown river sand, in which were found: (a) Parts of a human skeleton, seemingly belonging to an adult male, the bones of which were very friable and greatly eroded. In one of the incisor teeth was inserted a small disk of obsidian, the outer surface of which was highly polished (fig. 58). These ornamental tooth fillings are rather rare, though they have been found from time to time in Yucatan and as far south as Quirigua. They were usually made from greenstone, obsidian, or iron pyrites, all highly polished, the only teeth ornamented being the incisors and canines, usually in the upper jaw. The plugging seems to have been exclusively for ornamental purposes, not with any idea of filling a cavity, the result of caries in the tooth.[1]

FIG. 58.—Obsidian disk inserted in tooth of skeleton found in Mound No. 17.

[1] It is curious that neither Landa nor Villagutierre mentions this ornamental plugging of the front teeth, as, judging by the number of teeth found, it can not have been of exceptionally rare occurrence. Landa, who describes their ornaments very closely, mentions the filling of the teeth, but not the plugging, which, had it been in vogue at the time of the conquest in Yucatan, he must have heard about or observed. It seems probable that the custom had already become obsolete before the first appearance of the Spaniards in Yucatan.

(b) A shallow plaque, 28 cm. in diameter, painted throughout a dark reddish-yellow, and finely polished. Upon the upper surface was outlined in fine black lines a bird, apparently a sea hawk, carrying in its claw a good-sized fish, possibly a stone bass (fig.. 59). The artist probably witnessed this event many times, as the mouth of the Rio Hondo, where stone bass abound, is a favorite fishing ground for sea hawks and frigate birds.

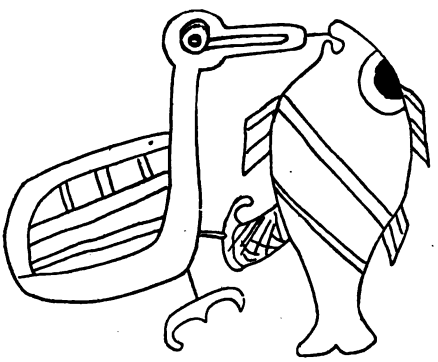


FIG. 59.—Bird carrying a fish outlined on shallow plaque found in Mound No. 17.

(c) A number of painted and glazed potsherds of all sizes.

Beneath this second chamber a third was discovered, roofed in with rough flags, of the same dimensions as the other two. The floor of this chamber was cemented over; nothing except limestone blocks and mortar was found between it and the bottom of the mound. Upon the floor lay a solitary plaque, of a deep reddish-yellow color, the upper surface divided by black lines into four equal spaces, in each of which was crudely outlined in black a fish, probably meant to represent a stone bass. On digging into the summit of the mound outside the area occupied by the chambers, the following objects were brought to light: (a) A cylindrical vase of light, thin, well-made pottery, 16½ cm. high by 13 cm. in diameter, painted light yellow throughout and finely polished (fig. 60). Upon one side of the vase, within an oblong space outlined in black, are a number of curious mythological animals, above which is a row of six glyphs, seemingly explanatory of the picture beneath (pl. 19, *a*). Both animals and glyphs are very carefully executed in red, black, and brown, on a yellow background. The lowest figure on the right somewhat resembles that on a vase in the American Museum of Natural History,[1] upon which the Long-nosed god is associated with bulblike objects, flowers, and a bird (probably a pelican). On this vase the Long-nosed god is seen with a bulblike object, possibly a root, from which project interlacing stalks, at the ends of which are water-lily buds. Above these is a bird, possibly a sea hawk. The whole connotes water, or fertility. (b) A second vase, similar in shape, but somewhat larger (fig. 61), is painted yellow and polished throughout. Upon this is depicted a cruciform object, with outgrowths from the upper and lateral limbs of the

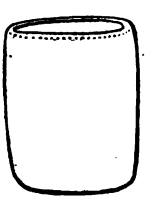


FIG. 60.—Cylindrical pottery vase found in Mound No. 17.

[1] See Spinden, Maya Art, fig. 79.

a. DECORATION ON VASE SHOWN IN FIGURE 60

b. DECORATION OF VESSEL FROM MOUND NO. 17

cross, probably a highly conventionalized tree. (c) A shallow circular plaque, 36 cm. in diameter, painted light yellow, and polished throughout. Upon its upper surface is painted, in red and black, a coiled plumed serpent (fig. 62), doubtless intended to represent Cuculcan, the "Feathered Serpent." (d) Two circular objects of polished greenstone, somewhat resembling broad-brimmed hats from which the crowns have been removed (see fig. 57, *b*). Each has on the upper surface of the brim a small ovate piece of mother-of-pearl, firmly cemented to the stone. These objects were probably used as ear plugs; with them were five small perforated spherical beads of polished greenstone.

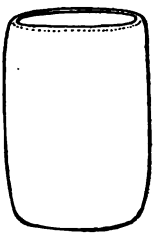


FIG. 61. — Larger pottery vase found in Mound No. 17.

At the base of the northern aspect of this mound was a small square enclosure, surrounded by a stone wall 2 to 3 feet in height. On digging into this, near its center, an alligator made of rough pottery, 15 inches long, was discovered. In the center of its back is a small circular opening, covered by a conical stopper, leading into the hollow interior, in which was found a small perforated polished jadeite bead, in the form of a grotesque human face. Close to the alligator lay a basin-shaped vessel, 28 cm. in diameter, painted yellow, and polished throughout. In the center of this, outlined in thin black lines, is the object seen in plate 19, *b*, probably meant to represent the two-headed dragon so common in Maya art.

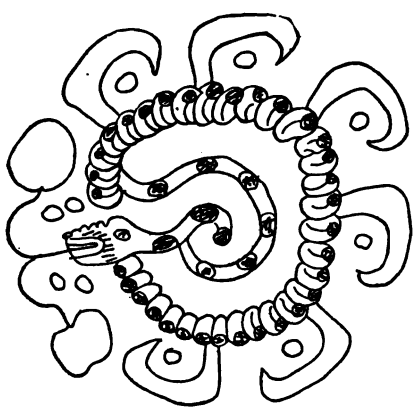


FIG. 62.—Coiled plumed serpent painted on plaque found in Mound No. 17.

MOUND NO. 18

Mound No. 18, situated less than half a mile from the next preceding, was 10 feet high, 70 feet in circumference, roughly conical in shape, and firmly built throughout of blocks of limestone the interstices between which were filled with earth and limestone dust. At the bottom of the mound, near its center, resting on the ground, was a cist, about 2 feet in diameter, roughly constructed of large flags of limestone. Within this were found two vessels: (a) A basin-shaped specimen of thin pottery, painted reddish-yellow and polished throughout; on its inner surface is depicted, in fine black lines, an object closely resembling a four-leafed shamrock. (b) A vase of the shape shown in figure 63, 13 cm. high and 13 cm. in diameter. This is made of rather thick pottery; it is

painted light yellow and polished throughout. On the outer surface of the rim, outlined in thin black lines, is the glyph represented in figure 64, which is repeated all the way round the circumference. No additional objects were found in this cyst, nor were there any traces of bones in it, or in the rest of the mound, which was afterward examined.

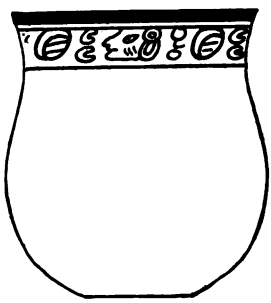


FIG. 63.—Pottery vase found in Mound No. 18.

MOUND NO. 19

Mound No. 19, situated close to the preceding, was 6 feet in height, with flattened top, built solidly throughout of limestone blocks and a friable mortarlike substance. At the ground level, near the center of the mound, were discovered two cists, placed side by side, separated by a partition wall built of blocks of cut stone. Each cist was 6 feet long, 3 feet broad, nearly 4 feet deep, solidly constructed of stones mortared together. Neither the cists nor the body of the mound contained anything of interest except a few fragments of bone in the last stages of disintegration.

MOUND NO. 20

Mound No. 20 was situated at Pueblo Nuevo, about 6 miles from the mouth of the Rio Nuevo, in the northern district of British Honduras. The mound was about 100 feet in length and varied from 8 to 12 feet in height and from 15 to 25 feet in breadth. It was built throughout of earth, limestone dust, and blocks of limestone, a great many of which had been squared. Immediately beneath the surface, running east and west along the long diameter of the mound and nearly centrally placed in it, was the upper surface of a wall, which had evidently at one time formed part of a building of considerable size. This wall was built of finely squared blocks of limestone mortared together, and was somewhat more than 18 inches thick. It extended for 40 feet, turning at right angles at both the eastern and western extremities and was broken by a single opening, 3½ feet broad at the center. The part of the wall left standing varied from 2 to 3½ feet in height and was covered on its inner surface by a layer of smooth, yellow, very hard cement; the outer surface, which still retained traces of painted stucco moldings,

FIG. 64.—Glyph outlined on outer surface of rim of vase shown in fig. 63.

ended below in a floor of hard cement 12 inches thick. The greater part of these moldings had been broken away, but portions were still adherent to the wall and great quantities of fragments, painted red and blue, were found immediately beneath the wall from which they had been broken. The most important of these were: (a) Two human torsos, one (the more elaborate) of which is seen in figure 65, *c*. (b) Three human heads, one of which is represented in figure 65, *b*, in situ. Both heads and torsos are life size, and both are painted red and blue throughout.[1] (c) Two headdresses, one of which is seen in situ in figure 65, *a;* the other is almost precisely similar in coloring and design. (d) Fragments of elaborately molded pillars, which had originally separated the figures on the wall. A portion of one of these is shown in figure 66. This design was repeated three times upon the front of the pillar, the back of which was flattened for attachment to the wall. Great quantities of fragments of painted stucco, of all shapes and sizes, were dug out of the mound, but the human figures, with the pillars which separated them, were the only objects the original positions of which on the wall it was possible to determine with certainty. Resting upon the layer of hard cement in which the wall terminated below, between 5 and 6 feet from the eastern end and close to the wall itself, was found an adult human skeleton, the bones of which were huddled together within a very small compass, in a manner suggesting secondary burial. In removing these bones nearly all of them crumbled to pieces. Throughout the whole mound were found numerous potsherds, some of very fine pottery, colored and polished; others thick, rough, and undecorated. Fragments of flint and obsidian, broken flint spearheads and scrapers, and broken obsidian knives were also found.

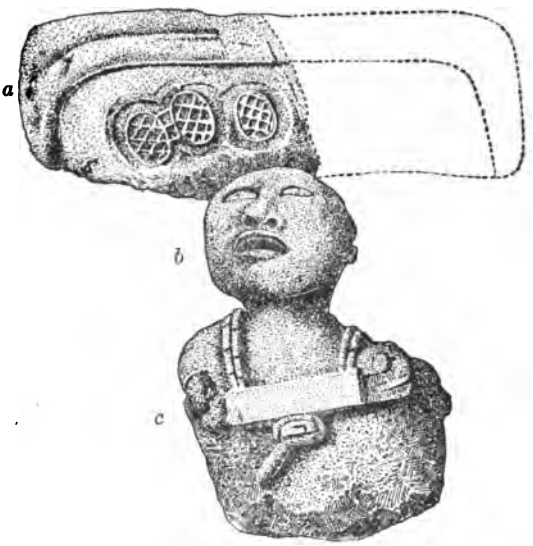


FIG. 65.—Torso, head, and headdress from Mound No. 20.

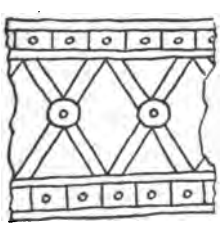


FIG. 66.—Fragment of pillar found in Mound No. 20.

[1] The photographs of the torso and headdress were taken in England and those of the head in British Honduras. Consequently they do not fit together as well as do the originals.

MOUND NO. 21

Mound No. 21 was situated near Corozal, in the northern district of British Honduras. This mound had very steep sides; it was 50 feet in height by 200 feet in circumference, and was built of blocks of limestone, the interstices of which were filled with friable mortar. Toward the west the mound joined a smaller mound, 20 feet in height. A rumor was current among the Indians in the neighborhood that some years before a number of fragments of clay idols had been found lying on the surface of the earth near the mound. Excavations were consequently made all around the mound, for a distance of 10 to 15 yards from its base, through the alluvial soil, down to the limestone rock, a distance of 6 inches to 2 feet. These excavations brought to light enormous quantities of fragments of crude, coarse pottery vessels, for the greater part the remains of large hourglass-shaped incense burners, which had been decorated on their outer surfaces with either a human head or an entire human figure. Among these fragments were animal heads in terra cotta, the snake and the dragon being of most frequent occurrence, but the deer, alligator, and tiger also being represented. Heads of the owl, the wild turkey, and the humming bird likewise were found. Fragments of about a dozen human faces were brought to light, with the usual nose ornaments, large round earrings, and labrets. Quilted cotton, stud decorated breastplates, sandaled feet, and bracelet-decorated hands and arms were also plentiful. The right arm seems in most cases to have been extended, holding in the upward turned palm some object as a gift or offering. These objects vary considerably; three are undoubtedly wild turkeys, with their long necks coiled around their bodies; two are palm-leaf fans attached to handles; one appears to be a shallow saucer containing three small cakes; while two are pyramidal, spike-covered objects, possibly meant to represent the fruit of the pitaya cactus. With these fragments of pottery were found four entire oval pottery vases, each about 4 inches high, standing on three short legs, each containing a few clay and polished greenstone beads. Close to these was a pair of vases, shaped like a right and left foot and leg, of the size approximately of those of a child 7 or 8 years of age, greatly expanded above the ankle. These vases showed traces of white and blue paint, which had, however, almost completely worn off; around them were a considerable number of fragments of the bones of deer and peccary, very much decayed. Close to the base of the mound was found an oval block of limestone, which formed the nucleus of a small hill, 2 to 3 feet high and 5 to 6 feet in diameter, composed almost entirely of pottery fragments, with a capping of humus. It is not improbable that this was the spot on which the ceremonial destruction of these

incense burners took place, the fragments being scattered in all directions around the entire circumference of the large mound.

MOUND NO. 22

Mound No. 22, situated at Saltillo, near the mouth of the Rio Nuevo, northern district of British Honduras, was partially explored in 1908–9 on behalf of the Institute of Archæology of Liverpool University. The mound was about 30 feet high; it was built of limestone blocks, limestone dust, and rubble. It stands at one corner of a quadrangular space measuring 80 by 35 yards, and elevated from 4 to 5 feet above the surrounding ground level. This space is encompassed by four mounds, joined by a bank or rampart averaging 10 feet high. Around the base of the mound a great number of fragments of pottery incense burners were found, with the images of the gods, which decorated them externally. Eight complete heads and two broken ones were recovered, together with arms, legs, bodies with quilted cotton breastplates and *maxtlis*, elaborate headdresses, and various objects held in the hands of the figures. These vessels are almost exactly similar to those found along the valley of the Usumasintla and Rio de la Pasion, described by Seler in his "Antiquities of Guatemala." Rude specimens, with the face of the god only decorating the outside of the vessel, were found by Sapper and Charnay in use among the Lacandon Indians a few years ago. The dress and ornaments of these clay figurines, which vary from 1 to 2 feet in height, are those found almost universally throughout the Maya area. The large circular ear ornaments, with a tassel or twisted pendant hanging from the center, the curious projecting curved ornament above the nose, the small button-like labrets at each corner of the mouth, are present in all, and are highly characteristic. On all the feet elaborate sandals are worn, fastened by thongs attached between the first and second and third and fourth toes, with a band passing around the ankle ending in a broad dependent flap. Around the legs are plain bands and strings of beads; around the wrists, strings of beads, in some cases fastened by an ornamental loop. The breastplates are of quilted cotton, some very elaborate, and decorated with beads, studs, and tassels, while below the breastplate covering the genitals is the *maxtli*, or small apron, commonly worn by both Maya and Aztec. The objects held in the hands consist of birds, fans, globes, incense burners, and other less easily distinguishable articles. The whole of the space within the earthwork appears to have been sprinkled with these fragments of pottery vases and idols, but it was only around the base of the large mound that entire heads were found. The fragments seem to have been originally placed on the earth, and in course of time to have been covered by a thin layer of humus from decaying vegetation,

as many of them still lie on the surface, and nowhere are they buried more than a few inches, except at the base of the mound, where earth from its side, washed down by rains, would naturally have covered them with a slightly deeper layer. On making excavations at various points within the enclosed space, the floor was found to consist first of the earth which contained the broken incense burners, with some blocks of limestone, and beneath this of a layer about 4 feet thick composed of marl dust, very small fragments of pottery, and rubble, welded together into an almost cement-like mass.

MOUND NO. 23

Mound No. 23 was situated near the northern end of Chetumal Bay, on the east coast of Yucatan. The mound was 12 feet in height, roughly circular in shape, and 12 yards in diameter at the base. The top was flattened, and near its center a circular space 10 feet in diameter was inclosed by a low, roughly built stone wall. On digging within this space there were brought to light, immediately beneath the surface, the following objects:

(a) Part of a large hourglass-shaped incense burner in rough pottery, decorated with a human figure in high relief, 20 inches high. Unfortunately the left arm and leg and part of the chest are missing from this figure, which, judging by the headdress, curved nose, and tusk-like teeth, is probably intended to represent the God Cuculcan. The left foot is sandaled, and on the left wrist is a loop-fastened string of beads, while over the front of the chest hangs a breastplate of quilted cotton, decorated with flaps and fastened over the shoulders.[1] Round the neck is a flat gorget, decorated with round bosses, and in the ears are large circular ear plugs with tassels dependent from their centers. Over the upper part of the nose is a curious curved, snake-like ornament. The lofty headdress, with broad flaps extending over each ear almost to the shoulders, has in front the head and upper jaw of some mythological animal, the latter projecting well over the face of the god, as if in the act of swallowing him. Pointing downward from the plumed ornament on the right side of the figure (the corresponding one on the left has been broken away) is a crotalus head, which so often accompanies representations of this god. The figure still exhibits traces of blue and white paint on that part of the face protected by the broad flap of the headdress, and originally doubtless the whole was painted in various colors, which first exposure to rain and afterward burial in moist earth, have almost completely obliterated. (b) An earthenware figure, 26 inches in

[1] It would appear that these thick woven or plaited cotton breastplates were fortified with salt.
Landa, op. cit., p. 48: "Y sus rodelas y iacos fuertes de sal y algodon."
Ibid. p. 172: "Hazian xacos de algodon colchados y de sal por moler colchada de dos tandas o colchaduras, y estos eran fortissimos."

height, which doubtless at one time ornamented the outer surface of a large incense burner. The left foot and leg are gone; the right foot is covered with a sandal held on by a curved heelpiece rising above the back of the ankle, and fastened in a bow in front of the instep, while a leather thong passing between the great and second toe is attached to this, holding the front part of the sandal in place. Round the leg is a broad band, with a row of semilunar ornaments projecting downward from it. The *maxtli* has been broken away, but the quilted cotton chest covering is still in position. This is held in place by bands passing over the shoulders, and is ornamented by a row of five circular studs passing down its center, with long tassels below, which must have hung on each side of the *maxtli*, and tassels above, attached near the shoulder, which hang down on each side of it. The throat is covered by a broad band, decorated along its lower edge with four pairs of small circular studs. Round the left wrist is a bracelet composed of six flat oval beads, fastened in front by an ornamental loop. The left arm is extended, and in the hand, held palm upward, is grasped an acorn-shaped object from which project nine spikes. From each side of the mouth project long curved tusks. The nose is of unusual shape, being long, straight, and slender; the bridge is covered by a curved snake-like object. The headdress rises 6 inches above the superciliary ridges; its lower part consists of the head and upper mandible of the bill of some bird, probably a hawk or eagle. Above this rises a hollow cylindrical erection, with the upper border scalloped, supported on each side by objects which suggest broad stone blades, hafted in club-shaped handles, and ornamented in front with a plume of feathers. There can be little doubt that this figure is meant to represent the God Itzamna, as the sunken cheeks, the single large tooth on each side of the mouth, and the prominent, though well-formed nose, are all characteristics of this god. (c) An earthenware figure, closely similar in size and appearance to those just described. Of the face only the left eye, the left side of the mouth, and the nose are left; the last named is short, rounded, and well formed, and is ornamented at its root with a small round stud. (d) Fragments of a rough bowl of yellowish pottery, which must have been of considerable size. Unfortunately only four fragments were found; these exhibit on their outer surfaces parts of a hieroglyphic inscription, roughly incised in the clay while it was soft, with some sharp-pointed instrument. Of the many glyphic inscriptions which have been found at different times in British Honduras, painted on pottery and stucco and incised on pottery, stone, and other material, none has proved to be an initial series, which would fix the period in the Maya long count when the mounds, temples, burial places, and other monuments scattered throughout this

colony, were constructed. According to recent researches the latest date recorded by an initial series on the monoliths of Quirigua, in Guatemala, is within about 70 years of the earliest date recorded by any of the initial series found up to the present among the ruins of Yucatan.[1] As the tide of Maya migration was undoubtedly from south to north, and as British Honduras stands midway between Guatemala and Yucatan, it is only reasonable to suppose that the colonization of the greater part of it by the Maya took place at some period between the abandonment of the cities of Quirigua and Coban, and the rise of Chichen Itza, Uxmal, and other Yucatan cities. This theory is borne out by the fact that the hieroglyphic inscriptions and pictographs found in the colony are closely allied to those found both in the northern and southern cities; moreover, the painted stucco and wooden lintels so common in Yucatan, but not found in the south, are present here, while the sculptured stelæ found in the south, but of extreme rarity in northern Yucatan, are (though not very numerous and poorly executed) found in British Honduras. (e) Large quantities of fragments of rough pottery vases and bowls; some of these evidently belonged to hourglass-shaped incense burners, 2 to 3 feet high, decorated with incised lines and glyphs, raised bands, and studs, but without human figures on their exterior surfaces. A number of these fragments were taken down to the camp of some chicle bleeders in the vicinity; unfortunately in the night the palm-leaf shelters caught fire and the whole camp was burned to the ground, most of the potsherds being lost or destroyed. Among these were probably the missing parts of the clay figures and of the hieroglyphic-covered pot. The whole of the mound was dug down, but with the exception of traces of a wall built of squared stones on the ground level, nothing worthy of note was found in it. It is almost certain that this mound had never been visited from the time of its erection till its discovery last year by chicle bleeders looking for sapodilla trees in this very remote corner of Yucatan. The clay images were lying on the top of the mound, partially uncovered, and had anyone, even an Indian, visited the place, they would almost certainly have removed these, as there is always a ready market for *idolos*, as the Indians call every relic of their ancestors, among curio collectors who visit Belize.

Mound No. 24

Mound No. 24 was situated near the coast, at the northern extremity of Chetumal Bay, in Yucatan. This mound was 10 feet high by about 10 yards in diameter. Upon the summit, which was flattened, were found a great number of rough potsherds, partially buried in a layer of humus from 6 to 12 inches deep. These were evi-

[1] Morley, An Introduction to the Study of the Maya Hieroglyphs, p. 15.

INCENSE BURNER FROM MOUND NO. 24

dently fragments of incense burners, as arms, legs, and parts of headdresses, faces, *maxtlis*, and breastplates were plentiful among them. Near the center of the summit, partially projecting from the earth, was discovered the almost complete incense burner shown in plate 20 and figure 67. The vessel which served as a receptacle for the incense is 15½ inches high by 9 inches in diameter at the mouth. The human figure which decorates the side of the vessel is 22 inches in height from the top of the headdress to the sole of the sandals. The figurine was not complete when first discovered, as the hands, arms, feet, *maxtli*, and feather ornaments from the sides and headdress were missing; nearly all of these, however, were unearthed, mixed with other pieces of pottery, not far from the incense burner. The headdress consists of a flat, broad cap with slightly projecting rim and large quadrangular flaps, which extend downward and outward over the large ear plugs. The back of the cap extends upward 3 inches; the crown is decorated with feather ornaments, while on each side appears an object resembling half an ear of maize, from the top of which depends a tassel. The nose is sharp, thin, and prominent; starting on each side of it and passing down almost to the angles of the jaw, where it ends in a little upward curl, is what might be intended as either a mustache or some form of nose ornament. From each angle of the mouth projects a circular labret; this evidently passes behind the upper lip, which it causes to bulge considerably. The ear plugs are large, round, and funnel-shaped (pl. 20); these, as well as the shoulders, show traces of blue paint, with which the entire figure was evidently at one time covered. Around the neck is a flat collar decorated with five circular studs, to the sides and front of which is attached a hollow cylindrical bar, which supports the quilted cotton breastplate. The latter is decorated with six tassels, three above and three below, and below it is seen the plain apron (*maxtli*), which descends almost to the sandals. The shoulders are covered with caps or epaulets reaching just below the armpits; on the forearms are bracelets, fastened with loops on the inner side, and on the feet sandals, held in place by vertical heelpieces and thongs, and decorated with large flaps, which almost cover the dorsum of each foot. Attached

FIG. 67.—Another view of incense burner shown in plate 20.

to the incense burner, and forming a background for the figure, are projecting feather ornaments extending from the headdress to the elbow.

The mound was dug away to the ground level. It was found to be built of blocks of limestone and earth, but nothing of moment was found in it with the exception of numerous potsherds of all kinds.

MOUND NO. 25

Mound No. 25 was situated in the country of the Icaichè Indians, Quintana Roo, Yucatan. The mound was discovered by the Indians when cutting down virgin bush to make a milpa, or corn plantation. It was a moderate-sized mound, about 10 feet high, and upon its summit, uncovered, lay the objects illustrated in figures 68, 69, and 70. Figure 68 exhibits a roughly formed clay figurine, nearly 1 foot in height, decorating a small hourglass-shaped incense burner. Both figure and vase are very crudely modeled in rough pottery; most of the prominent characteristics of the carefully modeled and elaborately decorated incense burner represented in plate 20 and figure 67 are still retained. The large round ear plugs, with long flaps from the headdress overlapping them, the horizontally striated breastplate, and even a rudimentary *maxtli*, together with the extended position of the arms, as if in the act of making an offering, and the background of featherwork are features which may be recognized. There is exhibited, however, a lamentable decadence from the art which fabricated the more elaborate vase. In figure 69 may be seen what probably represents a further stage of degeneration—namely, the substitution of the head for the entire figure on the outside of the incense burner. The last stage of all in the decadence of this branch of Maya art is to be seen in the small crude bowls found by Sapper in the great Christa of the settlement of Izan, and by Charnay in the ruins of Menche Tinamit.[1] These bowls,

FIG. 68.—Incense burner decorated with crude clay figurine from Mound No. 25.

[1] Accounts of the finding of these incense burners and of copal are common in both ancient and modern times. "Hallé en una de las dos Capillas cacao ofrecido, y señal de copal (que es su incienso) de poco tiempo allí quemado, y que lo era de alguna supersticion, ó idolatria recién cometida."—COGOLLUDO, Historia de Yucathan, Bk. IV, Cap. VII, p. 193.

"Y los que ivan tenían de costumbre de entrar también en templos derelictos, quando passavan por ellos a orar y quemar copal."—LANDA, op. cit., p. 158.

each decorated with a roughly modeled human face, are manufactured by the modern Indians and used by them in burning copal gum in the ruins of the temples erected by their ancestors. Figure 70 shows a life-sized hollow head, in rough pottery, with a thin hollow neck, probably used to carry around in processions on the top of a long pole. There can be no doubt that these bowls and hourglass-shaped vessels, each decorated externally with a human figure or face, usually that of a god, were used as incense burners, since a number of them, as already stated, were found in a mound at Santa Rita with half burnt out incense still contained in them. Moreover, their use for this purpose persists to the present day among the Lacandones [1] and even among the Santa Cruz Indians. These incense burners occur most frequently in the central part of the Maya area and are not common in northern Yucatan or southern Guatemala. Three distinct types are found; The first include the large, well-modeled specimens found in and around burial mounds, decorated with the complete figure of the god (usually Cuculcan or Itzamna), having every detail in clothing and ornament carefully executed in high relief. These are all probably pre-Columbian, and such as have been found seem to have been used only as ceremonial mortuary incense burners, to be broken into fragments (which were scattered through or over the burial mound) immediately after use.

FIG. 69.—Crude clay figurine found in Mound No. 25.

"While searching the upper steps of the pyramid my men found two interesting incense vessels with a head on the rim."—MALER, Researches in the Central Portion of the Usumatsintla Valley, Part 2, p. 136.

"In nearly all the houses (speaking of Yaxchilan) I found earthen pots, partly filled with some half-burned resinous substance. . . . They were in great numbers round the idol in the house I lived in. Some looked much newer than others, and many are in such positions that it was clear that they had been placed there since the partial destruction of the houses."—MAUDSLAY, Explorations in Guatemala, pp. 185–204.

CHARNAY, Voyage au Yucatan et au pays des Lacandons, pp. 33–48.

"Se trouvent une multitude de vases d'une terre grossière, et d'une forme nouvelle; ce sont des bols de dix à quinze centimètres de diamètre sur cinq à six de hauteur, dont les bords sont ornés de masque humains représentant des figures camardes et d'autres à grands nez busqués, véritables caricatures où l'art fait complètement défaut. . . . Ces vases servaient de brûle-parfums, et la plupart sont encore à moitié pleins de copal."—CHARNAY, ibid., p. 88.

[1] "These incense-burners are used by the Lacandones in their religious ceremonies. Each family or group of connected families living together possesses several of the incense-burners or *braseros*."—TOZZER, Comparative Study of the Mayas and Lacandones, p. 84.

The specimen shown in plate 20 and figure 67 is a typical example of this class.

Incense burners of the second type are smaller, cruder, and probably later in date than those of the first type. Some of these are decorated with the entire figure, but more of them with the face only of the god.

Villagutierre tells us that the Indians of this region as late as the end of the seventeenth century still practiced to some extent the rites of their ancient religion;[1] and in the voyages which he describes up the Rio Hondo, and to Tipu, the Spaniards must frequently have come in contact with the ancestors of the present Santa Cruz and Icaichè Indians, from whose territory the specimens shown in figures 68 and 69, typical examples of this class, were taken. During the early years of the Spanish occupancy it is probable that the Indians, even in this remote and little visited region, living in a constant state of semiwarfare and rebellion, robbed, enslaved, driven from their villages, with little time to cultivate their milpas, gradually lost their ancient traditions and arts, and, long neglecting, ultimately almost entirely forgot, the elaborate ritual connected with their former religion. Such a decadence may be observed in comparing the incense burners illustrated in plate 20 and figure 68. The very marked facial characteristics of the former have given place to the crudely modeled, vacuous face of the latter, resembling the work of a child; while the elaborate dress and ornament, each minutest part of which probably had a special significance and symbolism, though retaining to some extent the form of their main constituents—the headdress, breastplate, *maxtli*, and sandals—have almost completely lost the wealth of detail which gave them significance.

FIG. 70.—Crude clay figurine found in Mound No. 25.

[1] "Y las dos mas grandes, de Comunidad, y la otra, aùn mas grande, que todas las otras, era el Adoratorio de los perversos Idolos de aquellos Lacandones, donde se hallaron muchos de ellos, de formas raras, como assimismo cantidad de Gallinas muertas, Brasseros, con señales de aver quemado Copal; y aùn se hallaron las cenizas calientes, y otras diversas, ridiculas, y abominables cosas, pertenecientes à la execicuion de sus perversos Ritos, y Sacrificios."—VILLAGUTIERRE, op. cit., p. 264.

Incense burners of the third type are decorated with a very crude representation of the face only of the god, consisting in some cases merely of slits for the eyes and mouth, with a conical projection for the nose, on the outer surface of the vessel. Some of the faces are represented conventionally by two ears, with ear plugs, one on each side of the vessel, or by knobs of clay on its outer edge, which represent the hair. Lastly, the incense burner, which may be recognized by its hourglass shape, may be quite plain and undecorated.

The third type is probably the latest in point of time;[1] this includes the crude face-decorated bowls still used by the modern Lacandones,[2] among whom the ritual, as is so frequently the case, seems to have survived almost in its entirety the faith which gave birth to it. This is the more readily comprehensible when we remember that the manufacture and use of these ceremonial incense burners was practiced commonly by all classes of the people, not having been restricted, like most other details of the Maya ritual, solely to the priests.

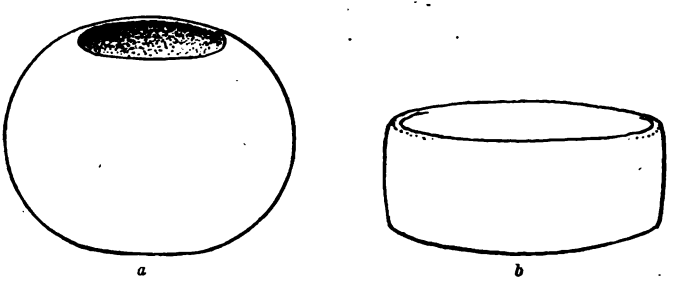


FIG. 71.—Small pottery vases found in Mound No. 26.

MOUND NO. 26

Mound No. 26 was situated in a clearing about 7 miles to the south of Corozal, in the northern part of British Honduras. There were about 20 mounds, irregularly grouped, in this clearing, varying from 6 to 12 feet in height and from 50 to 120 feet in circumference. The mound was 8 feet high by 80 feet in circumference. It was built of rough blocks of limestone, limestone dust, and earth, tightly packed

[1] See TOZZER, op. cit., p. 87: "If we consider the type of bowl with the knob-like projection as a transition form, we are led to the conclusion that the most primitive form of incense burner was the bowl on which was represented the whole body at first, and then the head of a person or animal."

Ibid., p. 91: "The Lacandones assert that in former times the incense burners were made in other forms, some possessing arms and legs. These are seldom made or used now."

[2] These face-decorated bowls were in use as incense burners among the Mayas of Valladolid, very shortly after the conquest. See Relacion de la villa de Valladolid, p. 185: "Adoraban unos ídolos hechos de barro á manera de jarillos y de macetas de albahaca, hechos en ellos de la parte de afuera rostros desemejados, quemaban dentro de estos una resina llamada *copal*, de gran oler. Esto les ofrecían á estos ídolos, y ellos cortaban en muchas, partes de sus miembros y ofrecían aquella sangre."

See also Relacion de los pueblos de Popola, y Sinsimato y Samiol, pp. 44-45: "Usaban de adorar unos jarrillos hechos en ellos rostros desemejados, teniandolos por sus ydolos quemavan dentro y ofresian una resina llamada copal ques como trementina elada, de gran olor, y se cortavan en muchas partes para ofrecer la sangre a aquel ydolo."

together, forming a tough, resistant mass. The mound was completely removed to the ground level, but nothing of interest except chips of flint, fragments of obsidian knives, and potsherds was found till the ground level was reached. Lying upon this, near the center of the mound, were found the two small vases represented in figure 71, *a*, *b*. Each is about 6 inches in diameter; the one marked *a* is of polished red pottery, nearly globular in shape; *b* is of dark chocolate-colored pottery, also finely polished. There was a space of about 4 feet between the two vessels, in which were found fragments of human bones.

Mound No. 27

Mound No. 27 was situated within 100 yards of the next preceding, compared with which it was slightly smaller. It was built of blocks of limestone, limestone dust, and earth. No remains were found in the mound till the ground level was reached. Resting on this, about the center of the mound, lay a small vase (fig. 72), 8 inches in height, of rough red pottery. Close to this were a few fragments of human bones and some teeth. This mound contained nothing else of interest.

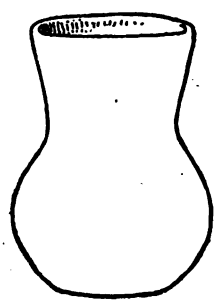
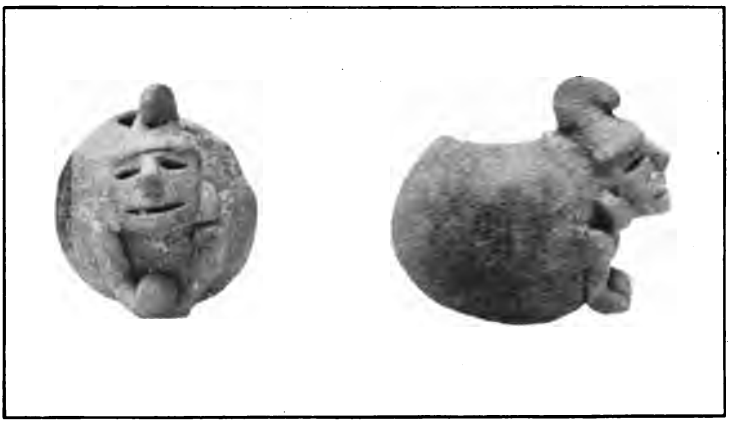


Fig. 72.—Red pottery vase found in Mound No. 27.

Mound No. 28

Mound No. 28 was situated close to Nos. 26 and 27, and was built of similar material. It was 6 feet high by 120 feet in circumference. On the ground level about the center of the mound lay a circular, flat-bottomed bowl 8 inches in diameter, painted a dark chocolate color and polished. A hole had been bored in its bottom and the bowl itself was broken into three pieces. With it was an irregularly shaped piece of flint about 5 inches in length, into which nearly 20 circular holes had been bored. It would appear that this piece of flint had been used to test the merits of various boring implements, as some of the holes were shallow depressions, while others were half an inch deep. Most of them were mere circular depressions of varying diameters, with a smooth flat bottom, and had evidently been made with a solid cylindrical borer, others, however, had a solid core projecting from their bottom, and appeared to have been bored with a hollow cylinder; while a third variety had a small indentation at the summit of this central core. No further excavation was done in this group of mounds, as they all appeared to be sepulchral, belonging to persons of the poorer class, hence it was considered very improbable that objects of interest would be found in them.



a. SMALL VASE DECORATED WITH HUMAN HEAD

b. HUMAN BONES FROM MOUND NO. 29

MOUND NO. 29

Mound No. 29, situated close to the seashore, near Corozal, was of unusual construction, being built throughout of marl dust. It was a low, flat mound, 2 feet in height by 25 feet in diameter. Nothing of human origin was found in it with the exception of a few rough potsherds. On reaching the ground level two circular well-like holes, 2 feet in diameter, were discovered, about 15 feet apart. At the top both openings were covered with large blocks of limestone, on removing which it was found that each hole was filled with marl dust, enclosing in both cases a single male human skeleton. The knees had been forcibly flexed on the thighs, and the thighs on the pelvis, while the back had been bent till the head, which rested on the folded arms, almost touched the symphysis pubis. Evidently the body had been doubled up at the time of burial, so as to fit tightly into the cavity, and had been further compressed by ramming down large stones on top of the marl dust with which it was surrounded.[1] The bones in one of the graves were in an excellent state of preservation, as may be seen from plate 21, *b;* they are those of a young adult male, probably somewhat more than 5 feet in height, of poor muscular development. The teeth are excellent; the skull is decidedly brachicephalic, the measurements being: Length, 15.4 cm.; breadth, 17.5 cm.; circumference, 52 cm.; cephalic index, 113. Beneath this skeleton were found an unfinished flint arrowhead, four fragments of small obsidian knives, and the broken fragments of a small, round, unpolished chocolate-colored bowl.

The bones in the other cist, though placed apparently under precisely the same conditions as the one first opened, were found to be so friable that they crumbled into fragments when an effort was made to remove them Beneath them were found only fragments of obsidian knives.

MOUND NO. 30

Mound No. 30, situated close to Corozal, was completely dug down, and was found to contain multiple burials. The mound was 8 feet in height, roughly circular, and 40 feet in diameter. It was capped by a layer of reddish-brown earth, 6 inches to 1 foot in thickness, beneath which were alternate layers of soft cement, each about 1 foot thick, and of small limestone rubble about 2 feet thick. Scattered over the surface of the mound, just beneath the earth capping, were found a number of fragments of clay figurines. The best preserved of these were three human faces, an arm with the hand holding a small bird, a bird's head, an alligator's head, and a plaited cotton breastplate. At depths varying from 2 to 3 feet, six interments were found; of these

[1] "Que en muriendo la persona, para sepultar el cuerpo le doblan las piernas y ponen la cara sobre las rodillas . . . abren en tierra un hoyo redondo."—COGOLLUDO, op. cit., Bk. XII, Chap. VII, p. 699.

only a few fragments of the skull and long bones remained, not enough to determine even the position in which the corpse had been placed at burial. With the bones, in some cases close to them, in others at some little distance, the following objects were discovered: One rubbing stone (for grinding corn), 2 pear-shaped flints, 9 flint hammerstones, 1 ax head, 1 flint scraper, 1 broken hone of slate, 1 flint spearhead, 2 fossil shells, 2 pieces of brick-like pottery, 1 pottery disk, 3 small beads, and 1 shell.

On reaching the ground level of hard compact earth, it was found that an oblong trench had been cut through the latter down to the limestone rock beneath, 3 feet in breadth, and varying from 2 to 4 feet in depth; this trench had been filled in with small rubble. In its inner wall, at the north side of the quadrangle, three interments had been made by scooping out small cists in the earth, depositing the remains therein, and filling in with limestone dust and rubble. With one of these burials was found a small three-legged pot, of rough, unpolished pottery; with another, a vessel in the form of a quadruped, 7 inches in length, the identity of which is difficult to determine; and with the third a small saucer-shaped vessel of red ware, and a nearly spherical vessel of dark polished red ware. Within the latter were discovered a few small animal bones, some fresh-water snail shells (as are found at the present day in the neighboring swamps and eaten by the Indians), and a few bivalve shells. It seems probable that this vessel contained food, either as an offering to the gods or for the use of the deceased in his passage to the next world. It is not uncommon to find considerable accumulations of the shells of conchs, cockles, snails, and other edible shellfish, with the bones and teeth of deer, tiger, gibnut, snake, and (along the seashore) manatee, in British Honduras mounds; but the remains of food offerings contained within a vessel are of rare occurrence.[1]

A number of these large flat mounds containing multiple burials have been from time to time completely dug down near Corozal, in order to obtain stone for repairing the streets. Beneath nearly all of them were found trenches cut through the earth down to the subjacent limestone. These trenches varied from 2 to 5 feet in breadth; in the case of the smaller mounds they formed a parallelogram, a triangle, or even a single straight line; in the larger mounds two parallelograms were joined by parallel trenches (see fig. 23). They were invariably filled with small rubble, and a few of them contained

[1] Among the modern Maya Indians of this area food is no longer placed with the dead, but every *Hanal pishan*, or All Souls' Day, tortillas, posol, meat, and other foods are placed upon the graves, on the odor of which the soul of the departed is supposed to regale itself. Tozzer mentions the custom of burying food with the dead as still practiced by the modern Lacandones. (See TOZZER, A comparative Study of the Mayas and the Lacandones, pp. 47–48.)

See also COGOLLUDO, op. cit., Bk. XII, Chap. VII, p. 699: "Al rededor le ponen mucha vianda, una xicara, un calabaço con atole, salvados de maiz, y unas tortillas grandes de lo mismo, que han llevado juntamente con el cuerpo, y assi lo cubren despues con tierra."

interments in their walls. The purpose of these trenches is difficult to surmise, as they could hardly have served as foundations; drainage was unnecessary; and, while the trenches themselves were never employed for sepulchral purposes, it is only occasionally that a few burials are found within cists excavated in the earth along their margins.

Three kinds of burial seem to have been commonly employed among the ancient inhabitants of this part of the Maya area. The poorest class were buried in large flat mounds, some of them a half an acre in extent and containing as many as 40 to 50 interments. The body was usually buried with the feet drawn under the pelvis, the knees flexed on the abdomen, the arms crossed over the chest, and the face pressed down on the knees; the position, in fact, in which it would occupy the smallest possible space. With the remains are usually found a few objects of the roughest workmanship, as flint hammerstones, scrapers, and spearheads, pottery or shell beads, stone metates and henequen scrapers, small obsidian knives and cores, and unglazed, rough pottery vessels. In the second class of burials, each individual has a mound, varying from 2 to 30 feet in height, to himself. Several mounds of this class have already been described from the neighborhood of Corozal. The objects found with interments of this class are usually more numerous and of better workmanship than those found in the multiple burial mounds, though they do not show much greater variety. The position of the skeleton, where it has been possible to ascertain this, is usually the same as in the multiple burial mounds; occasionally, however, it is found in the prone position, and, in rare instances, buried head down. The third mode of burial was probably reserved for priests, caciques, and other important individuals. The interment took place in a stone cist or chamber, within a large mound, varying from 20 to 50 feet in height. The skeleton is found in the prone position, surrounded by well painted and decorated vases, together with beautiful greenstone, shell, obsidian, and mother-of-pearl beads, gorgets, studs, ear plugs, and other ornaments.[1] Some of these mounds contain two or even three chambers or cists, superimposed one upon the other. The skeleton is then usually found in the top cist, the accompanying objects being placed in the lower ones. In one instance partial cremation seemed to have been practiced, as fragments of half-burned human bones were found in a large pottery urn.

[1] This practice of burying with the dead some of their belongings is mentioned both by Landa and Villagutierre.

"Enterravanlos dentro en sus casas o a las espaldas dellas, echandoles en la sepultura algunos de sus idolos, y si era sacerdote algunos de sus libros, y si hechizero de sus piedras de hechizos y peltrechos."—LANDA, op. cit., p. 196.

"Tenian por costumbre estos Indios, de sepultar los Difuntos en los Campos, à corta distancia del Pueblo, y poner sobre las Sepulturas de los Varones Banquitos, Puquietes, y otras cosas del vso varonil; y sobre las de las Mugeres, Piedras de moler, Ollas, Xicaras, y otros trastos à este modo."—VILLAGUTIERRE, op. cit., p. 313.

MOUND NO. 31

Mound No. 31 was situated close to the Rio Nuevo, about 16 miles from its mouth, in the northern part of British Honduras. It was a somewhat flattened mound, 15 feet in height, built of blocks of limestone, limestone dust, and earth. At a depth of 9 feet, the angle of a ruined building, formed by two walls averaging 2 feet high, intersecting at right angles, and built of squared blocks of limestone, was

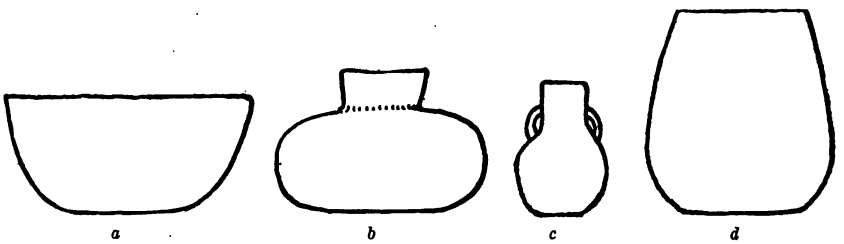


FIG. 73.—Pottery vessels found in Mound No. 31.

brought to light. The walls enclosed part of a floor of smooth, hard cement. Numbers of blocks of squared stone were found throughout the upper part of the mound, which had evidently at one time formed part of the ruined building. Resting on the cement floor, close to the wall, were found nine pottery vessels, covered with limestone dust. Five of these were of the type shown in figure 73, *a*, of dark-red, rather coarse pottery, 12 inches in diameter at the rim. One, pictured in figure 74, is the usual Maya chocolate pot, similar to the one already described (see fig. 24, *g*), except that the spout, instead of bending inward toward the vessel, passes directly upward parallel to its perpendicular axis, an arrangement which must have rendered it far easier to drink from the vessel or pour fluid out of it. The three other vessels found are illustrated in figures 73, *b*, *c*, and *d*; *b* is of polished chocolate-brown pottery, 3 inches in diameter by 5 inches in height; *c* is of thick red pottery, 3 inches high, with two small handles for suspension, one on each side; *d* is of coarse polished red ware, unusually thick and clumsy, 12 inches high by 8 inches in diameter. Each of these vessels contained a single small polished greenstone bead. No other objects were found associated with them, and there was no trace of human bones. Excavations were made in this mound to the ground level without results. The lower part of the mound was built of large blocks of limestone and rubble, held loosely together with friable mortar.

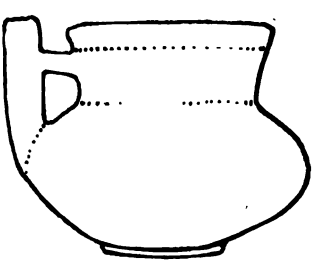
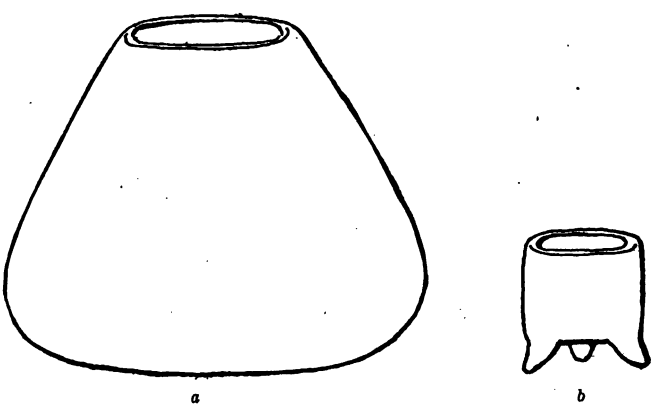


FIG. 74.—Chocolate pot found in Mound No. 31.

MOUND NO. 32

Mound No. 32 was situated quite close to No. 31, which it very closely resembled in both size and construction. At a depth of 9 feet the end of a small building constructed of squared blocks of limestone was brought to light. The walls were still standing to a height of 2 to 3 feet, and showed traces of a red stucco covering on their inner surfaces. The cement floor of the building and the platform upon which it stood could also be traced. Lying upon this floor were five pottery vessels and an unfinished flint celt. Two of these vessels were precisely similar to that shown in figure 73, *a;* one is a large, circular, shallow plaque, of rather thick reddish-brown pottery, in the center of which a small hole has been made, evidently with the object of rendering the plaque useless. The last two vessels are illustrated in figure 75, *a, b*. *A* is an unusually large vessel of very coarse, thick, red pottery, 18 inches high, which had probably been



a *b*

FIG. 75.—Pottery vessels found in Mound No. 32.

used to contain corn or some such dry material, as the pottery was too friable and soft for a cooking pot, or even to hold water. *B* is a small three-legged vase, 4 inches high, of coarse, unpainted pottery. Each of these five vessels, with the exception of the plaque, contained a single polished greenstone bead. The celt was roughly blocked out of yellowish flint. No objects except those above described were found with these vessels, nor were there any traces of human burial. Excavations were made in the mound to the ground level, and it was found to be composed below the platform upon which the building stood of a solid mass of rubble and limestone held together by loose, friable mortar. There are numerous groups of mounds of all sizes in the neighborhood, and judging by these, and by the potsherds and flint and obsidian chips which one finds strewn over the surface of the soil in great profusion, it must have been a densely populated region

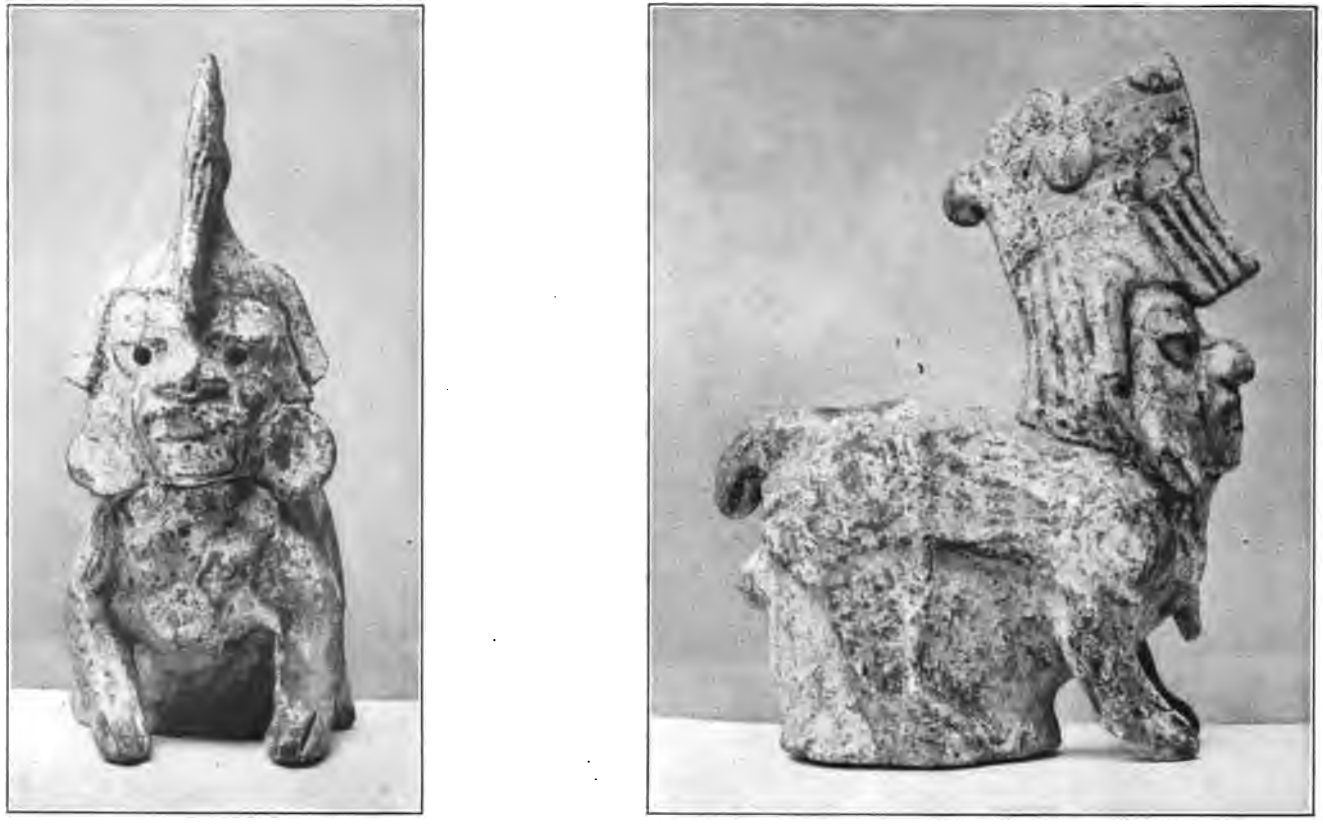
at one time. The two life-size human heads shown in figures 76 and 77 were found close to these two mounds in digging a posthole. Figure 76 represents a grotesque head cut from a solid block of crystalline limestone. Figure 77 is a mask, rather crudely cut from greenstone and unpolished. Both were buried in the marl and were unaccompanied by other objects.

FIG. 76.—Head cut from limestone found in Mound No. 32.

MOUND NO. 33

Mound No. 33 was situated near Bacalar, in the Province of Quintana Roo, Mexico. It was 6 feet in height by 20 feet in diameter, and was built of blocks of limestone, limestone dust, and earth. Near the summit of this mound, close to the surface, was found the small soapstone lamp illustrated in figure 78, 4¾ inches in length by 1¾ inches in depth. The lamp is decorated in front with a floral design, and at the back by wing or feather-like ornaments, possibly meant to represent the tail and half-folded wings of a bird. It is finely polished throughout but had probably never been used, as in hollowing out the interior the maker had carried one of his strokes too close to the surface, making a small hole, which would have allowed the oil to escape. There is a freedom and lack of conventionality, both in the pleasing and natural floral design and in the flowing lines of the back part of this little lamp, which are totally unlike the cramped and highly conventional style to be observed in similar small objects of ancient Maya manufacture. So widely does it differ from Maya standards that there can be but little doubt that it was introduced in post-Columbian days, probably very soon after the conquest, especially as in the same mound was found one of the small painted clay figurines so common in mounds in this neighborhood, which with the censers probably belonged to the

FIG. 77.—Greenstone mask found in Mound No. 32.



PAINTED CLAY FIGURINE FROM MOUND NO. 33

latest period of Maya culture. Another explanation which suggests itself is that the lamp was buried in the mound at a much later date (possibly during the troublous times of the Indian rebellions, between 1840 and 1850) by someone who wished to hide it temporarily, and that it had no connection with the original purpose of the mound. No other objects were found in this mound, with the exception of a number of potsherds, till the ground level was reached, where, near the center of the mound, the painted clay figurine shown in plate 22 was uncovered. This represents a deer with a human head, whose headdress is the upper jaw of some mythological animal. The back of the figure, which is hollow, contains a small opening near the tail, covered with a conical plug of clay. Within were

FIG. 78.—Soapstone lamp found in Mound No. 33.

two small beads, one of polished red shell, the other of polished greenstone. The whole figurine had been coated with lime wash, over which were painted black lines, dots, and circles.[1] The human face, earrings, gorget, and part of the headdress are painted blue, while the mouth of both the human face and the face in the headdress are painted red. Near the figurine lay a vessel (fig. 79) of rough yellow pottery, unpainted and undecorated, with two small ear-like projections just below the rim. No bones and no trace of human burial were found in the mound.

[1] This white lime wash, applied evenly to the entire surface, over which other colors were afterward painted, seems to have been used on all the more elaborate incensarios and on nearly all the clay figurines It is still employed by the modern Lacandones in the manufacture of their *braseros*. (See TOZZER, A comparative Study of the Mayas and the Lacandones, p. 109.)

MOUND NO. 34

Mound No. 34, situated near Progreso, in the northern district of British Honduras, was 5 feet in height, roughly circular, and about 20 feet in diameter at the base. The mound was built throughout of rough blocks of limestone, rubble, and earth. At the ground level, about the center of the mound, were found large flat unworked flags, which seemed to have formed the roof of a small cist that had caved in. Beneath these were found a few fragments of bone, which crumbled away as they were being removed, with a small spherical vase of rough unpainted pottery, 1½ inches in diameter (pl. 21, *a*). This was decorated on the outside with a human head wearing a peaked headdress, somewhat resembling the cap of liberty, and large circular ear plugs in the ears. Below the head projected a pair of arms with the hands clasped in front, supporting between them a small pottery ball. Within this little vase, which was filled with earth and limestone dust, were found: (a) A small earthenware bead (fig. 80, *a*). (b) A small, very delicate obsidian knife, the tip of which is broken off, but which otherwise shows hardly any signs of use (fig. 80, *b*). (c) The terminal phalanx of a small and delicate finger, in a very fair state of preservation (fig. 80, *c*). The burial of a terminal phalanx of one of the fingers of the mother, with a favorite child, is not an unknown custom among semicivilized peoples, and it is possible that this little mound contains such an interment. The bones of the child being fragile and deficient in calcareous matter, may well have almost disappeared, while the finger bone of the mother, being of more compact bony tissue, and protected to some extent by the vase in which it lay, has been preserved. The crudeness of the modeling of the little vase and of the face and arms thereon would suggest that it may have been a plaything of the child during life, and even perhaps may have been modeled by its own hands. The obsidian knife may have been used by the mother to separate the bone at the last finger joint. The little figure which decorates the outside of this vase closely resembles those curious figures in a diving position, with arms pointed downward and feet upward, which are not uncommon in this area. Figure 81 shows one represented on the outside of a small vase; several are to be found, molded in stucco, on the

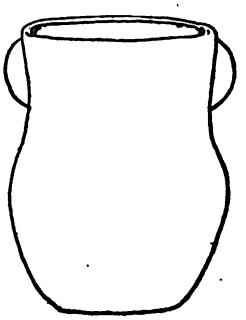


FIG. 79.—Rough pottery vessel found in Mound No. 33.

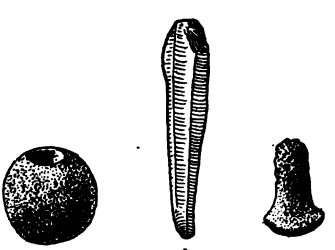


FIG. 80.—Objects found in Mound No. 34.

ruined buildings of Tuluum, on the eastern coast of Yucatan, just below the island of Cozumel, and they are occasionally, though rarely, found decorating pottery incense burners, instead of the commoner representations of the Gods Itzamna and Cuculcan. Neither Landa, Villagutierre, nor Cogolludo mention the custom as practiced by Maya mothers or relatives on the deaths of their children. Had it been prevalent at the time of the conquest it seems hardly possible that such a practice could have escaped their notice; on the other hand, if the solitary phalanx had not been buried with the dead as a memorial, its presence under these circumstances is very difficult to explain.

In nearly all extensive groups of mounds one or more middens, or refuse mounds, are to be found. The four mounds next described, though varying much from one another, are all distinctly of this type.

FIG. 81.—Figure in diving position on small vase.

MOUND NO. 35

Mound No. 35 was situated near the Cayo, on the Mopan River; it forms one of a group of about 30 mounds scattered over a considerable area. It was 12 feet in height and seemingly had been about 30 feet in diameter, but situated as it was, immediately on the river bank, nearly half of it had been washed away by the floods of successive rainy seasons, leaving a clean section almost through the center of the mound, very favorable for observing its construction. The lowest layer, 1 to 2 inches in thickness, resting on the ground level, was composed of ashes mixed with fragments of charcoal; above this was a layer of earth and stones about 1 foot in thickness, and above this a further layer of ashes; and so on to the top of the mound—strata of ashes averaging 2 inches thick alternating with strata of earth averaging about 1 foot. No objects with the exception of a few potsherds were found in the earth layers, but the layers of ashes were rich in flint and obsidian chips, fragments of conch and snail shells, clay beads and malacates, potsherds in great variety and abundance, with the bones of the deer, gibnut, and peccary. It would seem that this mound had formed a sort of kitchen midden; that when a certain amount

of refuse had been deposited it was covered with a layer of earth, and that the mound must have been in use for a considerable time to have reached its present height.

Small mounds containing considerable quantities of ashes and charcoal mixed with earth and stones, together with refuse material, as flint and obsidian chips, broken implements, potsherds, bones, shells, clay beads and malacates, and similar indestructible objects, are not of infrequent occurrence, and probably mark the sites of ancient kitchen middens. Two such mounds were found on the mainland, south of the island of Tamalcab, in Chetumal Bay, Yucatan, situated in what seemingly had been a village site, occupying an area of approximately 20 acres. Great numbers of potsherds, fragments of pottery, images, beads, malacates, chips and broken implements of stone and obsidian, broken metates, fragments of conch and cockle shells, stone water-troughs, and other indestructible rubbish were found scattered in great profusion over the whole of this site.

Mound No. 36

Mound No. 36 was situated at Sarteneja, in the northern district of British Honduras, quite close to the seashore. This mound was 2 feet 6 inches in height, about 12 feet in diameter; it was composed throughout of conch shells mingled with cockle and whelklike shells. Nothing except the shells was found in this mound, which forms one of a group of similar mounds, evidently dumping places used by each house, for the disposal of the shells of shellfish brought in from the reef by the fishermen after the fish had been extracted and eaten.

Mound No. 37

Mound No. 37, situated close to the next preceding mound on the seashore, at Sarteneja, is about 2 feet high by 12 to 15 feet in diameter. It is composed almost entirely of fragments of rather rough unpainted pottery and seemingly marks the site of a manufactory of this class of ware, as great quantities of fragments are also to be found scattered in all directions around the mound. A small quantity of earth was mingled with the potsherds, but nothing else was found in the mound.

Mound No. 38

Mound No. 38, situated about 5 miles from Corozal, in the northern district of British Honduras, was 6 feet in height by 15 feet in diameter, with a flattened top. It was covered with a layer of humus and contained nothing but fragments of weathered stone, of sizes varying

from small rubble to blocks weighing 30 to 40 pounds. Similar mounds are found elsewhere and are apparently merely heaps of stones, which have been picked up on the surface of the fields, as, unlike other mounds, they contain no clay, limestone, or marl dust, mortar, or other binding material and no trace of burials or any object of human construction.

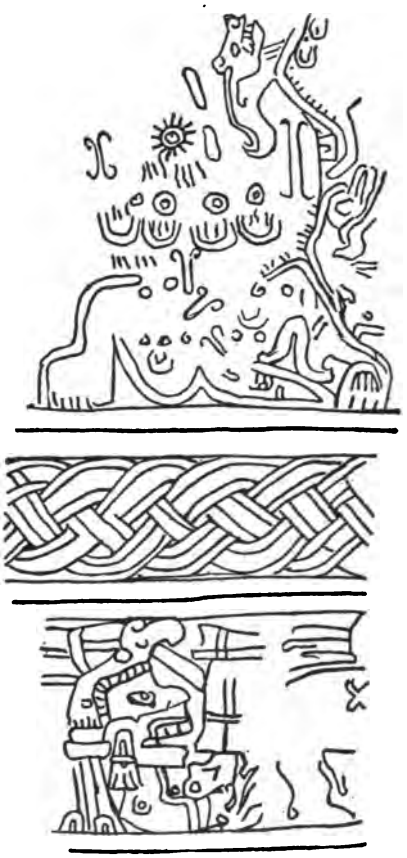


FIG. 82.—Design incised on femur of deer found in Mound No. 39.

MOUND No. 39

Mound No. 39 was situated on Wild Cane Cay, a small island off the southern coast of British Honduras. The island seems to have been built up with stone and other material brought from the mainland and to have been used as a burial place. Several small mounds are scattered over the face of the island; unfortunately most of them had been dug down for the sake of the stone they contained and the objects from the graves lost or given away. Those which could be traced consisted chiefly of copper ornaments, as rings, gorgets, and studs. Mound No. 39, the only one whose contents were ascertained with any degree of accuracy, was a small circular mound 10 feet high, built of sand and blocks of reef stone; near the ground level, about the center of the mound, a single human interment was found, the bones of which were in an advanced state of decay; mingled with these were: (a) A round red earthenware pot, containing a few small circular beads made from conch shell and five or six medium-sized, unused obsidian knives. (b) A second somewhat larger pot, of the same shape and material, which contained the upper part of the femur of a deer, on which is incised the design shown in figure 82. This is neatly executed in shallow lines; the upper part evidently represents a tiger, or the skin of that animal, and is separated by a platted design from the lower, which may be intended as a representation of the God Itzamna. With

the bone were two objects of copper, one a finger ring constructed of thin flat bands two-fifths inch apart, joined by double scrolls; this is very much worn, either from use or from oxidization, consequent on long exposure in the damp soil. The second copper object (fig. 83) was probably used as a gorget, or for attachment to a headdress, as at the back is seen a cruciform grille, evidently intended to hold it in place. This object is in the form of a human face, the lower part with its large mouth, thick prominent lips, and flattened nose, exhibiting marked negroid characteristics, which the upper part with its bulging prominent forehead contradicts. The headdress is ornamented with three spikes passing along the sagittal suture from front to back, while under the chin is a projection probably intended to represent a short beard. The ring and ornament are both strongly suggestive of Spanish influence, as the face with its thick lips, flattened nose, and bulging forehead is totally unlike any type with which the Maya were likely to come in contact, unless, indeed, it were the Carib, who even at this early date had possibly formed small settlements as far north as the southern coast of British Honduras. If the objects were of Spanish origin they were probably obtained from some Spanish settlement farther north, possibly Bakhalal, as there was no settlement between that town and the coast of Guatemala till many years after the conquest. That the cult of Itzamna was still flourishing is shown by the effigy of the god incised on the deer bone, and according to Villagutierre, the Indians of this neighborhood up to the end of the seventeenth century were closely allied to the Itzaex,[1] who still freely practiced their ancient religious rites.

FIG. 83.—Copper object found in Mound No. 39.

MOUND NO. 40

Mound No. 40, situated near Pueblo Nuevo, on the Rio Hondo, consisted of a ridge about 10 feet high by 40 feet in length. On the summit of the ridge near its center, covered only by a layer of humus, was found a small rough three-legged vase 3 inches high, containing a single long, polished, greenstone bead. The upper part of the ridge was found to consist of blocks of limestone, limestone dust, and rubble, on removing which to a depth of about 4 feet the ruins of a building were brought to light (fig. 84). The bones were in so poor a state of preservation that it was difficult to determine the exact

[1] Speaking of the boundaries of the territory of the Itzaex, Villagutierre (op. cit., p. 489), gives the sea as its eastern limit. All the tribes between the lagoon of Itza and the sea were evidently not subject to the Itzaex, however, as he mentions (Lib. IX, cap. III, p. 554) a number of tribes inhabiting this area with whom they were at war, and states (Lib. VI, Cap. IV p. 352) that the Mopanes and Tipu Indians were not subject to the Canek of Itza.

position in which the body had been placed at the time of burial; it had, however, certainly been fully extended. Close to the head were found fragments of three round bowls, all precisely similar in both size and coloring. Each was of the shape shown in figure 71, *b*, 3½ inches high by 6½ inches in diameter, and was made of rather fine ash-colored pottery, finely polished. Each of these bowls before burial had had the bottom knocked out. The mound beneath the building was composed of blocks of limestone, rubble, and limestone dust, forming a tough, solid, compact mass. This would seem to have been a small private house, not a temple, which (probably on account of the death of its owner) had been deliberately wrecked, and the owner's body buried beneath the cement floor of the one chamber remaining partially intact. Fresh cement seems to have been applied over the

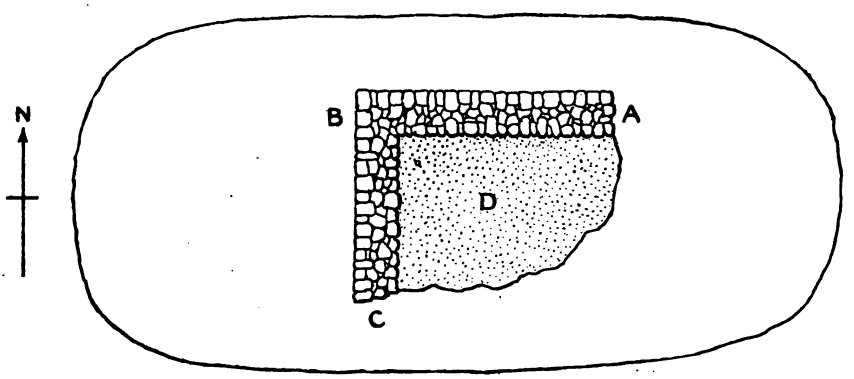


FIG. 84.—Ruins found in Mound No. 40. These consisted of broken-down walls about 2 feet high, joining each other at right angles. Of the wall *A–B*, 10 feet remained standing; of the wall *B–C*, 8 feet. The shaded space included between the walls was covered with hard smooth cement, which had been broken away to a rough edge at its outer border and was continuous at its inner border with the stucco which was still partly adherent to the walls. The walls themselves were built of blocks of limestone (squared on their outer surfaces but rough within), rubble, and mortar; they were nearly 2 feet thick. The long diameter of the ridge pointed almost due east and west. An excavation was made in the cement floor, and at the depth of 18 inches, at the point marked *D*, a single interment was brought to light.

grave before the greater part of the house was pulled down and the wreckage piled up, to form a capping to the mound upon which the house stood.

MOUND NO. 41

Mound No. 41 was situated in the northern district of British Honduras, about 9 miles from Corozal. It consisted of a circular wall or rampart varying from 4 to 10 feet in height, inclosing a space 30 yards in diameter. The wall was built of earth and blocks of limestone, and in places had become considerably flattened out from the action of the heavy tropical rains of this region. To the north an opening or gap existed about 10 yards across. Excavations were made in the encircling wall of the inclosure, and also in the central space, but nothing except fragments of pottery was discovered.

Mounds of this kind are found throughout the area, though not in great numbers. Some of these are circular or horseshoe shaped, some crescentic, and others curved or even straight ridges. As a rule they contain nothing except a few potsherds, which would naturally be picked up with the earth of which most of them are made; in some, however (especially in the straight ridges), superficial interments have been found. These mounds were probably used as fortifications, the circular, horseshoe-shaped, and crescentic mounds being particularly well adapted to this purpose.

At Yalloch, just across the Guatemala boundary line from Choro, a small village in the western district of British Honduras, the Alcalde made a remarkable discovery a few years ago. While hunting for a gibnut he traced one to a hole in the ground; on poking a stick into this hole, he was astonished on withdrawing it to find that he had brought out on its end a small painted pottery cylinder. The hole on being enlarged proved to be the entrance to a *chultun*, one of those curious underground chambers cut in the limestone rock found throughout Yucatan and the northern part of British Honduras, especially in the neighborhood of ruins. This *chultun* contained numbers of fragments of very finely painted and decorated pottery vases, together with two complete cylindrical vases, an ovoid vase, and a pottery cylinder without bottom. Some of these were within the *chultun*, some in a pit sunk in its floor, from which at a later date several pieces of beautifully decorated pottery were taken. The pit had evidently been used as a burial place, in which the memorial pottery was deposited with the body. Merwin found similar painted Maya vases some years later in a chamber covered by a mound, at Holmul, within a few miles of Yalloch, and at Platon, on the Mopan River, a sepulchral *chultun* was cleared out in which human bones still remained. (Pls. 23–28.)

Near the point where Blue Creek or Rio Azul joins the Rio Hondo, in the northern district of British Honduras, is situated in the bush about 100 yards from the latter river a small circular lagoon, of a deep blue color and considerable depth; from this flows a narrow stream, also deep blue in color and highly impregnated with copper, which opens into the main river just below the mouth of the Rio Azul. The little lake is bounded on its eastern side by an almost perpendicular cliff of limestone, in which are several small caves and one large cave. The interior of one of the smallest of these caverns, situated near the base of the cliff, not more than a few yards in depth, was roughly hewn out so as to form shelves. Upon these were found several hundred small binequins of incense, varying in size from 3 to 4 inches in length by 1½ to 2 inches in breadth, to 8 to 10 inches in length by 3 to 4 inches in breadth. The incense was composed of the gum of the white acacia mixed

with various aromatic substances; when burned it gave off a very pleasant odor. The gum had evidently been poured while in a liquid state into small bags, made of palm leaves, as in some of the binequins considerable fragments of the palm leaves were still adherent to the copal, and in all, casts of the leaves were left on the soft surface of the gum before it solidified. The binequins which the present-day Maya Indians manufacture as receptacles for their home-made lime, though vastly larger, are precisely similar in shape, construction, and appearance to those their ancestors used as receptacles for copal. The entrance to the large cave was near the summit of the cliff and so difficult to reach that it can never have been long used as a place of residence, though it would form an exceedingly strong position to hold against an attack from without, as it is necessary to cross a fallen tree trunk in order to enter, and this might easily be hauled back into the cave or pushed away from its mouth, leaving it practically inaccessible. Nothing was found in the cave except a large quantity of bats' excrement and of rough red potsherds.

TWO PAINTED STUCCO FACES FROM UXMAL

Two human faces molded in stucco and painted were discovered in a small stone-lined chamber situated beneath one of the end rooms of the Casa del Gobernador in the ruins of Uxmal, northern Yucatan. The room was accidentally disclosed by the caving in of a small part of its roof. One of its walls was covered, above a stone cornice, by a frieze of hieroglyphs, and against this wall stood a small square stone altar, each side of which had been decorated with a human figure molded in stucco and painted. Unfortunately these figures had fallen; the two heads here described are the best preserved parts of them which remain. Describing the sculpture in stone which adorns the outside of the Casa del Gobernador, Stevens ventures the opinion that some of the heads were portraits of celebrated men of the period.

The discovery of this chamber is extremely interesting, as it opens up the possibility that many, if not all, of these vast substructures, built apparently of solid stone, which throughout Yucatan support more or less ruined buildings, may in fact be honeycombed with chambers. Stevens first suggests the possibility of this. Unfortunately since Stevens's day little or nothing has been done throughout Yucatan in the way of excavation to verify the truth of his surmise.

Of the two heads now described, one probably represents a male, the other a female; there is, moreover, a marked individuality about each of them which renders it extremely probable that they are portraits, possibly of some "Halach Uinic" (real man, or chief) of Uxmal and his wife, during the palmy days of the triple alliance.

Each face is painted black with white circles round the orbital margin, red rims to the eyes, and brick-red oval patches at either angle of the mouth. The center of each upper lip is decorated by a figure 8 shaped labret, the lower portion of which has been broken away in the male head. Over the bridge of each nose is a curious ornament consisting of a small oblong object with rounded corners, held in place by a loop passing down the median line of the bridge. Over the center of the forehead in both faces hangs a pendant, that of the male composed of four small round beads, that of the female appearing as a rounded comblike excrescence. Traces of the headdresses remain as a few feathers above each forehead. Both heads were probably held within widely distended animal jaws, as a part of the lower jaw is seen below the chin in the male head, where also

the large circular red ear plug still remains on the right side. The measurements of the faces are as follows:

Male.—Top of headdress to bottom of lower jaw of animal head holding the face, $11\frac{8}{10}$ inches; top of headdress to bottom of chin, $9\frac{8}{10}$ inches; forehead below headdress, to bottom of chin, $8\frac{8}{10}$ inches; extreme breadth of face (midway between a transverse line passing through the pupils and one passing immediately beneath the lower margin of the nasal septum), $7\frac{1}{10}$ inches; extreme breadth at level of the pupils, 7 inches; length of nose, $2\frac{6}{10}$ inches; breadth of nose, $1\frac{6}{10}$ inches.

Female.—Top of headdress to bottom of chin, $10\frac{4}{10}$ inches; forehead below headdress to bottom of chin, $8\frac{8}{10}$ inches; greatest breadth of face, at same level as the male, $7\frac{8}{10}$ inches; greatest breadth at the level of eyes, $7\frac{6}{10}$ inches; length of nose, $2\frac{8}{10}$ inches; breadth of nose, $1\frac{9}{10}$ inches.

The city of Uxmal belongs to the later, or northern Maya, civilization. Unlike the earlier southern cities, Uxmal is without a single initial series date by which its age might be approximately determined. It was founded by Achuitok Tutulxu, probably about the year 1000 of the Christian era. In the "Series of Katuns from the Book of Chilam Balam of Mani" the date given is Katun 2 Ahau, whereas in that from Tizimin it is recorded as having taken place 180 years later.[1] The cities of Uxmal, Chichen Itza, and Mayapan formed a triple alliance, which lasted for nearly 200 years, during probably the most prosperous period of the whole Maya rule in Yucatan. After the disruption of this alliance, caused by a quarrel between the rulers of Chichen Itza and Mayapan, Uxmal gradually declined in prosperity, till at the time of the conquest its temples and palaces seem to have been completely abandoned. The city was visited in 1586 by the Franciscan delegate Alonzo Ponce, one of whose companions gives an interesting account of the ruins. Describing the house of the governor, he says:

> Besides these four buildings there is on the south of them, distant from them about an arquebus shot, another very large building built on a "Mul" or hill made by hand, with abundance of buttresses on the corners made of massive carved stones. The ascent of this "mul" is made with difficulty, since the staircase by which the ascent is made is now almost destroyed. The building which is raised on this "mul" is of extraordinary sumptuousness and grandeur, and like the others very fine and beautiful. It has on its front, which faces the east, many figures and bodies of men and of shields, and of forms like the eagle which are found on the arms of the Mexicans, as well as of certain characters and letters which the Maya Indians used in old time—all carved with so great dexterity as surely to excite admiration. The other façade, which faces the west, showed the same carving, although more than half the carved part had fallen. The ends stood firm and whole with their four corners much carved in the round, like those of the other building below . . . The Indians do not know

[1] Brinton, The Maya Chronicles, p. 87.

surely who built these buildings or when they were built, though some of them did their best in trying to explain the matter, but in doing so showed foolish fancies and dreams, and nothing fitted into the facts or was satisfactory. The truth is that to-day the place is called Uxmal, and an intelligent old Indian declared to the father delegate that according to what the ancients had said it was known that it was more than nine hundred years since the buildings were built.[1]

From this account there appears to be little doubt that at the time of the conquest the great buildings of Uxmal were deserted and already falling into ruins. In the minds of the Indians they were evidently associated with the practice of their ancient religious rites at a much later date, for one of the reasons given by the regidor when he applied for a grant of the land upon which the ruins stand was that—

It would prevent the Indians in those places from worshipping the devil in the ancient buildings which are there, having in them idols to which they burn copal, and performing other detestable sacrifices as they are doing every day notoriously and publicly.[2]

The ruins of Uxmal were probably venerated by the Indians up to a very recent period, as in one of the chants used by the modern Maya of southern Yucatan in their "Cha chac" or rain ceremony the "Noh Nah ti Uxmal," "Great house of Uxmal," is introduced, which possibly refers to the Casa del Gobernador, as this is the largest building among the ruins.

[1] Relación Breve, quoted by Spinden, A Study of Maya Art, pp. 7–8.
[2] Stephens, Incidents of Travel in Yucatan, vol. I, p. 323.

POTTERY VASE FROM YALLOCH, GUATEMALA

EXPLANATION OF PLATE 23

The ovoid vase shown in plate 23 is 11 inches high by 6½ inches in diameter at its widest part. It is of very fine pottery, with decorations in red, black, and reddish yellow on a background of light yellow. The outer surface is divided by double black lines into three zones. The uppermost and narrowest zone contains, between a broad red band above and two narrow black bands below, a row of 10 glyphs surrounding the edge of the vase. The middle zone, the broadest, contains upon one side (unfortunately the decoration upon the other side has been almost obliterated by time or wear) a human figure, in a crouching position, the right hand extended, the left resting upon the ground. The face is in profile, and around the left eye is seen the ornament usually associated with the representation of a god. This may be intended to represent Schellhas's God D of the Codices, known as the Roman-nosed God, probably Itzamna, as this peculiar eye ornament is often associated with him. The headdress is exceedingly elaborate, projecting far in front of and behind the head, and is decorated with plumes of feathers. The whole figure strongly suggests the bas-relief on the side of the door of the altar at Palenque, which is undoubtedly a representation of the god Itzamna. The curious eye ornaments, the construction of the elaborate headdress, the contour of the face, and the platted objects hanging down in front of and behind the chest, from the neck, are similar in both. The lowest zone is decorated with vases having handles at the sides, narrow necks, and flaring rims from which project flame-like tongues; on the outer surface of each is depicted an "Ahau" sign. The vases alternate with curious objects which might represent bales of merchandise; the whole, indeed, closely resembles the tribute count of some Aztec city.

EXPLANATION OF PLATE 24

The cylindrical vase shown in plate 24 is 6 inches in diameter by 11 inches high. It is divided into three zones, the uppermost of which contains a single row of hieroglyphics, in fair preservation, between a broad red band above and two narrow black bands below. The middle zone, by far the broadest, contains two very spirited representations of the Long-nosed God, one on each side of the vase, done in red, black, white, and dark yellow. The Long-nosed God, called by Schellhas in his "Representation of Deities of the Maya Manuscripts" God B, is usually identified with Cuculcan, the feathered serpent; the Aztec Quetzalcoatl. This god is usually represented with a long pendulous nose and one or two projecting tusks, and is almost invariably associated with the serpent. The head of the god is often held between the serpent's open jaws, or has added to it a serpentine body; again the god may be encircled by intertwining serpents, or may hold the reptile's body in his hand, like a wand. Though the serpentine attributes of the god are in this instance conspicuous by their absence, and the tapir attributes are emphasized, there can be little doubt that the painting is meant to represent God B, as the long pendulous nose and projecting tusks are highly characteristic of that god. The lowest and narrowest zone of this vase is covered with alternating red and black lines.

POTTERY VASE FROM YALLOCH, GUATEMALA

A. HOEN & CO. BALTIMORE.

POTTERY VASE FROM YALLOCH, GUATEMALA

A. HOEN & CO. BALTIMORE.

EXPLANATION OF PLATE 25

The cylindrical vase shown in plate 25 is 7½ inches in height by 4½ inches in diameter. The whole of the decoration upon it is in light and dark red on a light yellow background, and, like the two previously described vases, it is divided into three decorative zones. The uppermost zone contains a single row of glyphs, almost indecipherable, apparently from constant use of the vase before it was buried. The middle zone contains two very remarkable mythological creatures, one on each side, whose feather-covered bodies, long legs, and large feet are suggestive of the ostrich. The necks are long and covered with flame-like projections, and both they and the heads, with their huge elongated jaws, are evidently intended for those of feathered serpents. The lowest zone of the vase is narrow, and contains only a narrow and a broad red stripe.

70806°—18—Bull. 64——10

EXPLANATION OF PLATES 26, 27, AND 28

The pottery cylinder shown in plates 26, 27, and 28 is 10½ inches high by 4 inches in diameter and is without a bottom. It is most exquisitely decorated in light and dark red and dark yellow on a light yellow background, and is also divided into three decorative zones. The uppermost zone contains only a single row of hieroglyphs, very much defaced, among which may still be recognized several of the Maya day signs. The middle zone, by far the broadest, is covered by a most intricate design, containing human and mythological figures and hieroglyphs, with ornamental plumes, plats, and pendants; the whole, owing to the partial obliteration of the design, being extremely difficult to make out. On one side is seen a highly conventional representation of what is undoubtedly intended for the feathered serpent, with tail bent around to join the upper part of the head. The feathered serpent appears to permeate all Maya art in this section of the Maya area; whether painted on pottery or stucco, or incised on bone, pottery, or other material, one encounters him at every step. The serpent rests upon a row of glyphs, very much defaced, and below this is a mass of bows, knots, plumes, and glyphs. Farther along is a fierce-faced human figure, probably a warrior, with lofty and elaborate headdress, ornamented with many long feather plumes. Between the warrior and the serpent is a row of eight cartouches, superimposed one upon the other, each containing glyphs, a good deal defaced, among which the "Ahau" sign may still be clearly made out. The opening glyph in this panel may refer to the katun 8 Ahau. This katun can end in 8 Ahau only once in 260 years, or twice in the ninth cycle, namely, on 9.0.0.0.0.8 Ahau, 3 Ceh, and on 9.13.0.0.0.8 Ahau, 8 Uo; and it is reasonable to suppose that if this is a calendar record it refers to some date in the ninth cycle. Naranjo, the nearest ancient Maya city to Yalloch, was occupied for a period of approximately 12 katuns, or 240 years,[1] between 9.7.10.0.0 and 9.19.10.0.0; if this glyph, therefore, refers to a katun ending in 8 Ahau in the ninth cycle, the date 9.13.0.0.0 is certainly indicated.

[1] Morley, An Introduction to the Study of the Maya Hieroglyphs, p. 15.

POTTERY CYLINDER FROM YALLOCH, GUATEMALA
(OTHER VIEWS IN PLATES 27 AND 28)

A HOEN & CO BAL

POTTERY CYLINDER FROM YALLOCH, GUATEMALA
(OTHER VIEWS IN PLATES 26 AND 27)

A.HOEN & CO BALTIMO

POTTERY CYLINDER FROM YALLOCH, GUATEMALA
(OTHER VIEWS IN PLATES 26 AND 27)

A.HOEN & CO BALTIMORE, MD

AUTHORITIES CITED

BRINTON, DANIEL G. The Maya chronicles. Brinton's Library Aboriginal American Literature, vol. I. Phila. 1882.

CHARNAY, DÉSIRÉ. Voyage au Yucatan et au pays des Lacandons. *La Tour du Monde*, vol. XLVII, pp. 1–96; vol. XLVIII, pp. 33–48. Paris, 1884.

COGOLLUDO, JUAN LOPEZ DE. Historia de Yucathan. Madrid, 1688.

GANN, THOMAS. On exploration of two mounds in British Honduras. *Proc. Soc. Ant. London*, 2d ser., vol. XV, pp. 430–434. London, 1894–95.

——— On the contents of some ancient mounds in Central America. Ibid., 2d ser., vol. XVI, pp. 308–317. London, 1896–97.

——— Mounds in northern Honduras. *Nineteenth Rept. Bur. Amer. Ethn.*, pt. 2, pp. 655–692. Washington, 1900.

JOYCE, THOMAS A. Mexican archæology. New York, 1914.

LANDA, DIEGO DE. Relation des choses de Yucatan. Texte Espagnol et traduction Française. Published by Brasseur de Bourbourg. Paris, 1864.

MALER, TEOBERT. Researches in the central portion of the Usumatsintla Valley. Pt. 2. *Mem. Peabody Mus.*, vol. II, no. 2. Cambridge, 1903.

——— Explorations in the Department of Peten, Guatemala. *Mem. Peabody Mus.*, vol. IV, no. 2. Cambridge, 1908.

MAUDSLAY, A. P. Explorations in Guatemala. *Proc. Royal Geog. Soc.*, vol. V, no. 4, pp. 185–204. London, 1883.

MORLEY, SYLVANUS GRISWOLD. An introduction to the study of the Maya hieroglyphs. *Bull. 57, Bur. Amer. Ethn.* Washington, 1915.

RELACION de la villa de Valladolid. *Actas Cong. Int. Amer.*, Madrid, 1881. vol. II. Madrid, 1884.

RELACION de los pueblos de Popola y Sinsimato y Samiol. *Coleccion de documentos ineditos, relativos al descubrimiento, conquista y colonizacion de las posesiones Espanolas en America y Oceania.* 2d ser., vol. XIII. Madrid, 1900.

SPINDEN, H. J. A study of Maya art. *Mem. Peabody Mus.*, vol. VI. Cambridge, 1913.

STEPHENS, JOHN L. Incidents of travel in Yucatan. Vols. I–II. New York, 1843.

THOMAS, CYRUS. Day symbols of the Maya year. *Sixteenth Rep. Bur. Amer. Ethn.*, pp. 205–264. Washington, 1897.

TOZZER, ALFRED M. A preliminary study of the prehistoric ruins of Nakum, Guatemala. *Mem. Peabody Mus.*, vol. V, no. 3. Cambridge, 1913.

——— Comparative study of the Mayas and Lacandones. *Pub. Archæol. Inst. Amer.* New York, 1907.

VILLAGUTIERRE, JUAN DE. Historia de la conquista de la provincia de el Itza . . . a las provincias de Yucatan. [Madrid], 1701.

INDEX

	Page
AGRICULTURE, most important occupation of Indians	20
ALCOHOL, effect on Indian temperament	34
AMULETS, worn by women	19
ANIMALS—	
Domestic, kept by ancient inhabitants	55
kept for pets	25
ARTS OF THE ANCIENTS, fine examples discovered	53
BASKETS, making of	30
BLEEDING, favorite remedy	37
BONES, measurements of	51
BRISTOL MUSEUM, objects from collection of	13
BRITISH HONDURAS, NORTHERN, geographical description of	14
BRITISH MUSEUM, objects from collection of	13
CANDLES, method of making	31
CANOES—	
making of	28
used for trading along rivers	29
CEREMONIES, the four principal	42
CEREMONY, CHA CHAC, at ripening of corn, description	42
CHARMS worn by women	19
CHIEF—	
power practically absolute	35
rarely dies natural death	35
strongest subchief usually succeeds	35
CHILDBIRTH, methods of facilitating	38
CHILDREN, love for and disposition of	33
CHRONOLOGY, three periods of Mayan civilization	58
CIGARETTES—	
making of	30
smoked by women	17
COOKING, native methods of	22
COOKING UTENSILS, description of	27
CORN—	
harvesting and storing of	20
preparation of ground and planting of	20
surplus sold or exchanged	20
CORN HUSKS, wrappers for cigarettes	30
CORN PLANTATION. *See* Milpa.	
"CUHUN RIDGES"—	
description of	14
sites of ancient mounds	14
sites of modern villages	14
DEATH SENTENCE, how executed	35
DIET—	
description of	21
maize staple article of, among ancient inhabitants	55
DISEASES—	
bleeding for	37
eye trouble, remedy for	38
intestinal parasites	37
malaria	36
smallpox	37
venereal	37
whooping cough, remedy for	38
DRESS—	
ancient inhabitants	52
ancient priests	52
ancient warriors	52
DRESS—Continued.	
now principally English and American goods	19
DRUNKENNESS—	
curse of the Indians	34
not considered a disgrace	34
FIRE, methods of making	22
FISH—	
methods of catching	25
varieties of	25
FISHING—	
harpooning at night	25
methods of	25
torch used in	25
FOOD—	
animals used as, by ancient inhabitants	55
kind and method of eating modified by contact with more civilized communities	22
method of serving and eating	22
preparation and serving of	21
snakes used as	24
turtles' eggs used as	24
FOWLS, use of, in Cha chac ceremony	45
FURNITURE—	
description of	27
hammocks conspicuous articles of	27
GAME—	
pursuit of	23
traps used in capturing	24
GAME BIRDS AND ANIMALS—	
list of	24
preparation and curing of, for future use	21
GAMES—	
of the ancient inhabitants	56
played by adults and children	39
HAMMOCKS—	
conspicuous articles of furniture	27
hiding places for "cooties"	27
HEADDRESSES—	
ancient warriers and priests	52
animals carved in wood	52
HENEQUEN FIBER—	
method of cleaning	30
uses of	31
HOMES, not particular as to cleanliness of	16
HOOKWORMS, prevalent, due to earth-eating habits of children	37
HOUSES—	
ancient, description of	53
built with assistance of neighbors	26
method of construction	26
HUNTING, torch used in	24
ICAICHÉ, estimate of population	13
IMMORALITY, brought about by cheapness of rum	33
INDIANS, causes of early deaths	34
ITZAS, occupying western British Honduras	13
LIVERPOOL MUSEUM, objects from collection of	13
MACAPAL—	
carried by children, causing bowlegs	16
description of its use	15
habits acquired by constant carrying of	16

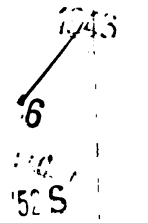
	Page
MACAPAL—Continued.	
weighted with stones as counterpoise in traveling	16
MACHETE, used as tool and weapon	28
MALARIA—	
chief scourge of Indians	36
treated by sweating	36
MARRIAGE—	
age of	32
all degrees of racial mixture	34
ceremony often delayed	33
Maya women to Negro men common	33
not legal among Santa Cruz unless performed by certain official	33
obligation somewhat loose	33
usually by Catholic priest	33
MASSAGE, practiced by midwives	38
MAYA, progenitors of present inhabitants	15
MEDICINE, list of plants used as	38
MEN—	
cruelty of, often in nature of reprisal	18
dress of	18
example of cruelty of master to servant	18
have no desire to accumulate wealth	18
mental characteristics of	17
occupation of	17
skillful in finding routes and in following tracks	18
stoical in bearing pain	18
METATE—	
superseded by hand mills	17
use of	21
MILPA—	
many fruits and vegetables grown in	20
preparation of	20
MOCCASINS, making of	19
MOSQUITOES, carriers of malaria	36
MOUNDS—	
abundant on fertile soil	50
classification of	49
contents indicate physical appearance of ancient inhabitants	51
manner of construction	65
MUSEUM OF THE AMERICAN INDIAN, objects from collection of	13
ODOR, peculiar	16
OILS, for cooking and lighting	31
ORNAMENTS, worn by ancient inhabitants	52
"PINE RIDGES," description of	14
PLANTS, list of, used as medicine	38
POTTERY—	
ancient, description of	54
ancient, ornamentation of	54
slight attempt at decoration	28
POTTERY MAKING—	
exclusively by older women	28
no polish, glaze, or paint applied	28
rendered unnecessary by iron pots and earthenware	17
PROPERTY, disposition of, at death	33
PUNISHMENT—	
fine, flogging, and death only methods of	35
for witchcraft or sorcery	36
imprisonment as, unknown	35

	Page
RELIGION—	
ancient inhabitants	56
Catholic priests not permitted for many years	41
Christianity a thin veneer	42
four principal ceremonies	42
human sacrifice by the ancient inhabitants	57
Indian conception of	40
native priests appointed	41
RELIGIOUS ALTARS, draped and decorated	28
RUM—	
made locally	34
women usually drink privately	34
SANDALS, worn by ancient inhabitants	52
SANTA CRUZ TRIBE—	
emigration of	13
estimate of population	13
measurements of	15
physical description of	15
policy of extermination of, by Mexican Government	13
SMALLPOX—	
terrible scourge	37
treatment for, often disastrous	37
SNAKES USED AS FOOD	24
SPINNING—	
method of	29
no longer practiced	17
universal among ancient women	55
SPIRITS, belief in	40
SUPERSTITION, "Santa Cruz" oracle	41
SURGERY, practice of	37
TEETH, filed and filled with plugs	51
TOBACCO—	
curing of	30
vanilla leaves mixed with, to give flavor and fragrance	30
TORCH USED IN FISHING	25
TORTILLAS, preparation and cooking of	21
TRAPS USED IN CAPTURING GAME	24
TURKEY, use of, in Cha chac ceremony	45
VILLAGES—	
description of	32
foreigners not permitted to reside in	32
frequent changes of sites	27
locations of, carefully concealed	32
WEAPONS—	
defensive, of ancient inhabitants	53
offensive, of ancient inhabitants	52
WEAVING—	
method of	29
no longer practiced	17
WOMEN—	
dress of	19
in gala costume present attractive appearance	16
industrious workers	17
jewelry and ornaments worn by	19
obscene and disgusting language used by	16
occupation of	17
personal cleanliness of	16
physically and mentally superior to men	16
social characteristics of	16
YUCATAN, geographical description of	14
YUCATECAN TRIBES, immigration into northern British Honduras	13

MAR 5 '52

Stanford University Library
Stanford, California

In order that others may use this book, please return it as soon as possible, but not later than the date due.



970.
U58
No. 6

OCT 11 1961

JUN 2 1962

MAY 20 '69

STANFORD UNIVERSITY
LIBRARY
Stanford, California